

3.0 AFFECTED ENVIRONMENT

This chapter describes the resources and uses within the BLM-administered lands in Coachella Valley California Desert Conservation Area that may be affected by this CDCA plan amendment. The information provided here serves as base-line data for analyzing the various alternatives.

3.1. Land Use Designations

As a multiple use agency, the BLM is uniquely challenged to both develop and conserve the public lands and natural resources for present and future generations. Rarely do a wide variety of public uses occur on the same parcel of BLM-managed public land due to land use and resource conflicts. Generally, the BLM will designate certain public lands for one suite of compatible use and designate other lands for a different suite of compatible uses. Overall, the BLM remains consistent with its multiple-use mandate.

The rapid urbanization occurring in the Coachella Valley and throughout Southern California is putting additional pressure on the BLM-managed public lands to meet the multiple use needs of the community. These uses range from additional communication sites for cellular phones, sand and gravel mineral material sources for urban development, and public access for a variety of recreational opportunities, to multi-species habitat conservation. Public interest in land exchanges with the BLM also increases as urbanization interfaces with and at times encroaches on the BLM-managed lands.

The intensity and variety of multiple uses the community requests of the BLM-managed public lands requires a high level of coordination and collaboration with all the interested constituents to ensure the various multiple uses are taken into consideration. This planning process is an excellent opportunity to coordinate with all the interested constituents and to minimize land use conflicts on the BLM-managed public lands.

3.1.1 Existing Land Use Designations

Many of the BLM-managed public lands within the planning boundary have existing land use designations for the protection of natural and cultural values, including five Areas of Critical Environmental Concern (ACEC), all or portions of four wilderness areas, and a congressionally-designated national monument (Figure 3-1). A description of these existing lands use designations follows.

Chuckwalla Bench Area of Critical Environmental Concern. The Chuckwalla Bench ACEC was established for its exceptional desert tortoise densities, the highest in the Sonoran Desert, and as a rich relic representative of Sonoran Desert with a full compliment of wildlife and plant species including several rare plants.

Dos Palmas Preserve/Area of Critical Environmental Concern. The Dos Palmas ACEC lies east of the Salton Sea. Biological resource values within the ACEC include desert fan palm oasis woodland, desert dry wash woodland, mesquite bosque, stabilized desert sand fields, desert saltbush scrub, desert sink scrub, and freshwater marsh, and habitat for the desert pupfish, Yuma clapper rail, California black rails, flat-tailed horned lizard, yellow bat, and the Palm Springs pocket mouse. The area also includes small communities of desert saltbrush scrub and coastal and valley freshwater marsh.

Whitewater Canyon Area of Critical Environmental Concern. The Whitewater Canyon ACEC is located in the mountains north of San Geronimo Pass in the Whitewater River canyon. The portion within the Plan area encompasses approximately 11,200 acres, including 10,000 acres of federal land and approximately 1,200 acres of private land. About 75 percent of the Whitewater Canyon ACEC is within the San Geronimo Wilderness. Biological resources include riparian woodlands, mesquite thickets, a fan palm oasis, and habitat for arroyo toad, desert tortoise, and--during migration--the least Bell's vireo, southwestern willow flycatcher, and other riparian species.

Big Morongo Canyon Preserve/Area of Critical Environmental Concern. The Big Morongo Canyon Preserve was designated as a BLM Area of Critical Environmental Concern in 1982 and expanded in 1998. The Preserve begins about one half-mile southeast of the town of Morongo Valley in the Little San Bernardino Mountains and opens at the canyon bottom into the west end of the Coachella Valley. In 1998, the CDCA plan was amended to expand the ACEC boundary in order to minimize habitat fragmentation and maintain the wildlife corridor links between the San Geronimo Wilderness to the west and Joshua Tree National Park to the east. Ownership in the Plan area is approximately 20,500 acres federal and approximately 540 acres private. The area's biological resources include riparian woodlands, desert dry wash woodland, and habitat for triple ribbed milkvetch and Little San Bernardino Mountains gila.

Coachella Valley Preserve System. The predominant resource protection area in this region is the Coachella Valley Preserve System. This System was established in 1985 by the Coachella Valley Fringe-toed Lizard Habitat Conservation Plan and consists of the three different management areas: the Coachella Valley Preserve, the Willow Hole/Edom Hill Preserve, and the Whitewater Floodplain Preserve. Each of these areas is cooperatively managed by the BLM, USFWS, California Department of Fish and Game, California Department of Parks and Recreation, and the Center for Natural Lands Management. The Willow Hole/Edom Hill Preserve, which is also an ACEC, consists of two distinct areas-- Willow Hole and Edom Hill. The Coachella Valley Preserve System is intended primarily to protect and enhance the habitat of the endangered Coachella Valley fringe-toed lizard, although the Preserve provides habitat for additional threatened and endangered species. Biological resource values within the Preserve include mesquite hummocks, a fan palm oasis, and habitat for the Coachella Valley fringe-toed lizard, Coachella Valley milk-vetch, Little San Bernardino Mountains gila, Palm Springs ground squirrel, Palm Springs pocket mouse, burrowing owl, crissal thrasher, yellow warbler, yellow-breasted chat, least Bell's vireo, and the Coachella Valley giant sand treader cricket.

Santa Rosa Wilderness Additions. Designated in 1994 by the California Desert Protection Act (CDPA), this wilderness area is located at the southern end of the Coachella Valley. Approximately 91,750 acres (all jurisdictions) is located within the CVMSHCP planning area. This wilderness exhibits outstanding characteristics of solitude and opportunities for primitive recreation. Resource values include habitat for Peninsular desert bighorn sheep, desert slender salamander, and many bat species. This steep, rugged wilderness contains a diversity of natural communities, including Sonoran Creosote Bush Scrub, Desert Dry Wash Woodland, Semi-Desert Chaparral, and Pinyon Pine-Juniper Woodland.

San Geronimo Wilderness Additions. Approximately 54,670 acres (all jurisdictions) of the San Geronimo Wilderness Additions are included within the planning area. Outstanding qualities of wilderness are protected in this area, including an unusually high level of biodiversity. The confluence of Mojave Desert, Sonoran Desert, Montane, and Coastal influences results in plant associations that are found in few other places. Habitat is present for many special status species, including the least Bell's vireo, southwestern willow flycatcher, arroyo toad, triple-ribbed milkvetch, and desert tortoise. USFWS-designated critical habitat is present for the arroyo toad in lower Whitewater Canyon. This wilderness is also a Class I airshed under the Clean Air Act.

Mecca Hills and Orocopia Mountains Wilderness Areas. The 30,363-acre Mecca Hills Wilderness (all jurisdictions) contains spectacularly eroded badlands, Sonoran Creosote Bush Scrub and two Desert Fan Palm Oasis Woodlands. The 54,683-acre Orocopia Mountains Wilderness (all jurisdictions) is located east of and adjacent to the Mecca Hills Wilderness and includes Sonoran Creosote Bush Scrub and Desert Dry Wash Woodland vegetative communities. Sensitive species found in both areas include desert tortoise, Mecca aster, and Orocopia sage.

Santa Rosa and San Jacinto Mountains National Monument. The Santa Rosa and San Jacinto Mountains closely align with the boundary of the Santa Rosa and San Jacinto Mountains National Monument. The BLM manages approximately 90,000 acres of land within this area, which mostly occurs at elevations near sea level to over 6,000 feet. The vegetation ranges from Sonoran Creosote Bush Scrub communities and Pinyon Pine/Juniper Woodland communities at the higher elevations. Portions of this area interface with several Coachella Valley communities, including Palm Springs, Cathedral City, Rancho Mirage, Palm Desert, Indian Wells, and La Quinta. This area is habitat for the endangered Peninsular Ranges bighorn sheep.

Northern and Eastern Colorado (NECO) Desert Coordinated Management Plan Overlap Area. The Northern and Eastern Colorado (NECO) Desert Coordinated Management Plan overlap area includes all lands between the western edge of the NECO boundary just east of Indio to the eastern edge of the CVMSHCP planning boundary. The NECO boundary begins just east of the Coachella Valley Preserve and runs southeast along the northern edge of the Coachella Canal.

West Mojave Plan Overlap Area. This planning overlap area includes those portions of the San Geronio Wilderness and Big Morongo Canyon ACEC within San Bernardino County (Townships 1 North and 1 South, Ranges 3, 4 and 5 East.).

3.1.2 Potential Areas of Critical Environmental Concern

FLPMA [202(c)(3)] authorizes BLM to designate Areas of Critical Environmental Concern (ACEC) which are areas requiring special management attention to protect important historic, cultural or scenic values, fish and wildlife resources, natural systems and processes, or to protect life and safety from natural hazards. ACECs are designated through the BLM planning process in accordance with 43 CFR 1610.7-2. Unlike Congressionally designated wilderness, ACEC designation does not automatically close an area to motorized vehicles.

Proposed ACECs and expansions must meet the criteria for relevance and importance established in 43 CFR 1610.7-2(a) prior to designation. Relevance means that "there shall be present a significant historic, cultural, or scenic value; a fish or wildlife resource or other natural system or process; or natural hazard. Importance means that "the above described value, resource system, process or hazard shall have substantial significance and values. This generally requires qualities of more than local significance..." In addition, the BLM must determine whether the resources or values that meet the criteria require special attention and therefore, warrant designation as an ACEC. The following is a discussion of the relevance and importance of the resources contained within the potential ACECs and potential ACEC expansion areas addressed through this CDCA Plan Amendment.

3.1.2.1 Potential Dos Palmas ACEC Expansion

The BLM parcels included in the potential expansion area to the existing Dos Palmas ACEC are listed in Table 3-1. A description of the habitat values is also included.

Table 3-1 Potential Dos Palmas ACEC Expansion Area

Township, Range, Section	Approximate Acreage	Habitat Values
T.8 S., R. 12 E., Sections 6, 20, 26, 32, 34	2280	Least Bell's vireo, Southwestern willow flycatcher, Summer tanager, Yellow-breasted chat, and Yellow warbler potential migratory habitat
T.8 S., R. 12 E., Sec. 20	440	Least Bell's vireo, Southwestern willow flycatcher, Summer tanager, and Yellow warbler potential breeding habitat; Southern yellow bat potential distribution
T.8 S., R. 12 E., Sec. 32	480	Crissal thrasher potential distribution
T.8 S., R. 12 E., Sections 6, 20, 28, 26; T.8 S., R.11 E., Sec.32	1960	Orocopia sage potential distribution

Relevance. Absent field surveys to verify the presence of the aforementioned species within the modeled potential habitat, it is not possible to establish the relevance of the Dos Palmas ACEC potential expansion area at this time.

Importance. If as a result of field surveys, the aforementioned species are found to be present within the modeled potential habitat, the expansion area would have substantial significance and value, meeting the criteria for ACEC importance. Dos Palmas is a known winter holding area, and migratory and breeding habitat for migratory birds along the Pacific Coast migratory bird route. As urban development continues to encroach on wetlands and riparian areas throughout the West, migratory bird stopovers such as Dos Palmas become more critical for conserving threatened and endangered species, especially migratory birds. Moreover, conservation of all threatened and endangered species which may be present in the potential expansion area, is important to the citizens of the Coachella Valley as part of a multi-jurisdictional effort to establish an effective regional multi-species reserve system.

3.1.2.2 Potential Upper Mission Creek ACEC

The BLM parcels included in the potential Upper Mission Creek ACEC are listed in Table 3-2. A description of the habitat values is also provided.

Table 3-2 Potential Upper Mission Creek ACEC

Township, Range, Section	Approximate Acreage	Habitat Values
T.2 S., R. 3 E., Sections 2, 11	960	Triple ribbed milk-vetch known locations. Southwestern willow flycatcher, Least Bell's vireo, yellow breasted chat, yellow warbler and summer tanager potential breeding habitat
T.2 S., R. 4 E., Sections 18	20	Little San Bernardino Mountains gilia known location
T.2 S., R. 3 E., Section 11	640	Crissal thrasher potential distribution; Coachella Valley milk-vetch, Southwestern willow flycatcher, Least Bell's vireo, yellow breasted chat, yellow warbler and summer tanager known locations
T.2 S., R. 3 E., Sections 24, 25	1200	Southwestern willow flycatcher, Least Bell's vireo, yellow breasted chat, yellow warbler and summer tanager potential migratory habitat; Burrowing owl known locations
T.2 S., R. 3 E., Section 25	560	Coachella Valley milk-vetch potential distribution
T.2 S., R. 3 E., Sections 1, 13, 14, 23, 26, 35, 36; T.2 S., R.4 E., Sections 6, 14	3960	These parcels are part of an ecotone for three life zones. No sensitive species habitat values identified within these sections.

Relevance. The sandy wash and riparian portions of the potential ACEC contain known locations of several threatened and endangered species including triple ribbed milk-vetch, Little San Bernardino Mountains gilia, Coachella Valley milk-vetch, burrowing owl, Southwestern willow flycatcher, Least Bell's vireo, yellow breasted chat, yellow warbler and summer tanager. The presence of these threatened and endangered species lend relevance for ACEC designation for those BLM parcels. Those BLM parcels are already within protective status as part of the San Geronimo wilderness area. No sensitive species were identified within the remainder (and majority) of the potential ACEC. Absent field surveys to verify the presence of listed species within the modeled potential habitat, it is not possible to establish the relevance of these potential ACEC parcels at this time.

Importance. The entire potential ACEC is situated at the interface of three different life zones (called ecotones): 1) montane/chaparral, 2) Sonoran (low) desert, and 3) Mojave (high) desert. Ecotonal areas typically contain high biodiversity due to convergence of different species from the different life zones, and ecotones commonly include a number of highly adaptable species than tend to colonize such transitional areas. Conservation of threatened and endangered species and areas of high biodiversity are important to the citizens of the Coachella Valley as part of a multi-jurisdictional effort to establish an effective regional multi-species reserve system. The multi-species reserve system would serve as the basis for issuance of a Section 10 permit from the USFWS, to the local jurisdictions, thereby facilitating development of private lands outside the reserve system.

3.1.2.3 Potential Coachella Valley ACEC

All BLM parcels located within the CVMSHCP conservation areas would be included in the potential Coachella Valley ACEC. A summary of the habitat values within the potential Coachella Valley ACEC, described by habitat type, is provided in Table 2-4: "Habitat Conservation Objectives." A more detailed description may be found in the technical appendices for the Coachella Valley Multi-Species Habitat Conservation Plan.

Relevance. BLM parcels with sandy wash and riparian habitat contain known locations of several threatened and endangered species including triple ribbed milk-vetch, Little San Bernardino Mountains gilia, Coachella Valley milk-vetch, burrowing owl, Southwestern willow flycatcher, Least Bell's vireo, yellow breasted chat, yellow warbler and summer tanager. The presence of these threatened and endangered species lend relevance for ACEC designation for those BLM parcels. Most of the known locations of threatened and endangered species on BLM lands are already within protective status totaling approximately 228,917 acres, be it the Big Morongo Canyon ACEC, Whitewater Canyon ACEC, San Geronimo Wilderness, Coachella Valley Fringe-toed Lizard Preserve ACEC, Mecca Hills Wilderness, Orocopia Mountains Wilderness, the Dos Palmas ACEC, Santa Rosa Mountains Wilderness and the Santa Rosa and San Jacinto Mountains National Monument.

For the remaining BLM lands within the conservation areas (approximately 23,631 acres) these contain potential habitat for a suite of listed species based on species distribution models prepared for the Coachella Valley Multi-Species Habitat Conservation. Absent field surveys to verify the presence of listed species within the modeled potential habitat, it is not possible to establish the relevance of these BLM parcels at this time.

Importance. Conservation of threatened and endangered species and areas of high biodiversity are important to the citizens of the Coachella Valley as part of a multi-jurisdictional effort to establish an effective regional multi-species reserve system. The multi-species reserve system would serve as the basis for issuance of a Section 10 permit from the USFWS, to the local jurisdictions, thereby facilitating development of private lands outside the reserve system.

3.1.3 Wild and Scenic Rivers

In accordance with the Wild and Scenic Rivers Act of 1968 (PL 90-542), the BLM shall identify and evaluate all rivers that have potential for wild and scenic river designation. To be eligible for designation, a river must be free-flowing and contain at least one Outstandingly Remarkable Value (ORV), i.e., scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar value. A "river" means a flowing body of water or estuary or a section, portion, or tributary thereof, including rivers, streams, creeks, runs, kills, rills, and small lakes. "Free-flowing" is defined as "existing or flowing in a natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway." Rivers with intermittent or non-perennial flows may be eligible for designation.

There are three instances when federal agencies assess eligibility: 1) at the request of Congress through specific authorized studies; 2) through their respective agency planning processes; or 3) by the National Park Service evaluation of a Section 2(a)(ii) application (pursuant to designation of wild, scenic, or recreational rivers by an act of the State legislature). Regarding potential rivers on public lands in the Coachella Valley Planning Area, Congress has not authorized specific studies, and no application has been filed with the Secretary of the Interior to include any State-designated river in the National Wild and Scenic Rivers System. Hence, eligibility determinations at this time are limited to those rivers identified through the resource management planning process.

Identification of potentially eligible rivers may occur at several stages of the planning process: pre-planning, public scoping of issues, analysis of the management situation, and public review of the draft plan or plan amendment. Also, if a river or river segment is identified in an official publication or list of another agency or river support organization, a case can be made to consider it. No rivers or river segments were specifically identified during pre-planning or the public scoping of issues for the Coachella Valley CDCA Plan Amendments, nor do any rivers or river segments within the Planning Area appear on the list of another agency or river support organization. However, the Nationwide Rivers Inventory (NRI) includes the North, East, South and Middle Forks of Whitewater River in the San Bernardino National Forest (San Bernardino County). Under a 1979 Presidential directive, and related Council on Environmental Quality procedures, all federal agencies were directed to avoid or mitigate actions that would adversely affect one or more NRI segments. The confluence of these forks occurs near the boundary of the BLM San Gorgonio Wilderness Additions with the main channel traversing the wilderness area. Also, the U.S. Forest Service, through its current amendment process, is considering eligibility of river segments in Palm Canyon for designation as a wild and scenic river. Hence, segments of these rivers on BLM-managed lands are also identified for consideration.

Through analysis of the management situation, four other river segments were considered for potential eligibility: the Mission Creek channel within the San Gorgonio Wilderness Additions, Little Morongo Canyon, Big Morongo Canyon, and Whitewater Canyon south of the Whitewater Trout Farm. Of all river segments considered, those on BLM-managed lands in Whitewater Canyon (within the San Gorgonio Wilderness Additions only), the Mission Creek channel (within the San Gorgonio Wilderness Additions only), and Palm Canyon are determined eligible for designation as wild and scenic rivers. The other river segments are determined as not eligible. Documentation of eligibility for each of these river segments is included in Appendix B.

Once a river segment has been determined eligible and given a tentative classification as "wild," "scenic," and/or "recreational," BLM is required to protect its free-flowing characteristics; protect, and to the degree practicable, enhance the Outstanding Remarkable Values which contribute to the river segment's eligibility; and ensure that its eligibility or tentative classification will not be affected before a determination of its suitability or non-suitability as a Wild and Scenic River can be made. If suitability determinations are not made through the resource management planning process, the resource management plan must prescribe protective management measures to ensure protection shall be afforded the river and adjacent public land area pending the suitability determination and, when necessary, subsequent action by the Congress (Appendix B). In addition, a separate legislative EIS is required as part of a separate reporting package (and plan amendment) to make the suitability determination.

3.1.4 Wilderness

The planning area contains four designated BLM wilderness areas: Santa Rosa Wilderness Additions, San Geronio Wilderness Additions, Mecca Hills Wilderness, and Orocopa Mountains Wilderness. These wilderness areas were designated by Congress on October 31, 1994, through the California Desert Protection Act, PL 103-433. Like all other federal wilderness areas, these four areas are managed in accordance with the Wilderness Act of 1964. They were given this high level of protection because they exhibit very few imprints of man and contain outstanding opportunities for solitude and primitive recreation.

The Wilderness Act of 1964 provides for the establishment of a National Wilderness Preservation System with areas to be designated from public lands with National Forests, National Parks, and National Wildlife Refuges. Public lands administered by BLM are inventoried and evaluated for wilderness potential in accordance with the Federal Land Policy and Management Act of 1976 (FLPMA). In the CDCA, 137 areas covering 5.7 million acres were determined to have wilderness characteristics; these areas were designated Wilderness Study Areas (WSAs) in May 1978.

Following the identification of WSAs, consideration was given to all resource values and opportunities, and a determination of “highest and best use(s)” for each WSA was made. This analysis led to preliminary recommendations for each WSA as suitable or non-suitable for wilderness designation by Congress. Subsequent amendments to the CDCA Plan revised the suitability determinations for certain WSAs, or portions thereof.

The CDCA Plan, as amended, established goals for wilderness management (Amendment Six, January 15, 1987):

1. Until Congressional release or designation as wilderness, provide protection of wilderness values so that those values are not degraded so far as to significantly constrain the recommendation with respect to an area’s suitability or non-suitability for preservation as wilderness.
2. Provide a wilderness system possessing a variety of opportunities for primitive and unconfined types of recreation, involving a diversity of ecosystems and landforms, geographically distributed throughout the Desert.
3. Manage a wilderness system in an unimpaired state, preserving wilderness values and primitive recreation opportunities, while providing for acceptable use.

California Desert Protection Act (Public Law 103-433). On October 31, 1994, Congress enacted the California Desert Protection Act (CDPA; Public Law 103-433), thereby designating certain lands in the California desert as wilderness in furtherance of the purposes of the Wilderness Act and Sections 601 and 603 of FLPMA. Of the 69 areas designated as BLM wilderness through the CDPA, four occur within the Coachella Valley Planning Area (Figure 3-1):

Table 3-3: Wilderness Areas
within Coachella Valley Planning Area

WILDERNESS AREA	TOTAL ACRES	BLM ACRES
Mecca Hills	30363	25949
Orocopia Mountains	54683	43275
San Gorgonio Additions	54672	36632
Santa Rosa Additions	91757	54695
TOTAL	231475	160551

The following provisions under Title 1, Sections 103 and 104 of the CDPA are particularly relevant to the Coachella Valley Plan:

- ▶ Subject to valid existing rights, each wilderness area shall be administered in accordance with the provisions of the Wilderness Act.
- ▶ Within wilderness areas, the grazing of livestock, where established prior to the date of enactment of the CDPA, shall be permitted to continue subject to such reasonable regulations, policies, and practices as deemed necessary, as long as such regulations, policies, and practices fully conform with and implement the intent of Congress regarding grazing in such areas as such intent is expressed in the Wilderness Act and section 101(f) of Public Law 101-628.
- ▶ The Congress does not intend for the designation of wilderness areas to lead to the creation of protective perimeters or buffer zones around any wilderness area. The fact that non-wilderness activities or uses can be seen or heard from areas within a wilderness area shall not, of itself, preclude such activities or uses up to the boundary of the wilderness area.
- ▶ As provided in section 4(d)(7) of the Wilderness Act, nothing in the CDPA shall be construed as affecting the jurisdiction of the State of California with respect to wildlife and fish on public lands.
- ▶ Management activities to maintain or restore fish and wildlife populations and the habitats to support such populations may be carried out within wilderness areas and shall include the use of motorized vehicles by the appropriate State agencies.
- ▶ Nothing in the CDPA may be construed to preclude Federal, State, and local law enforcement agencies from conducting law enforcement operations as permitted before the date of enactment of the CDPA, including the use of motorized vehicles and aircraft, on any lands designated as wilderness.
- ▶ All lands not designated wilderness in the Coachella Valley Planning Area are no longer subject to the requirements of section 603(c) of FLPMA pertaining to the management of WSAs.

Wildlife Water Developments in Wilderness. BLM Manual 8560 (04-27-83), Management of Designated Wilderness Areas, states the following:

Although construction of facilities to enhance an area's value for wildlife or fish is not generally consistent with the free operation of natural processes, there are situations where such measures may be necessary for the continued existence or welfare of wildlife or fish living in wilderness. This is particularly true in the case of species adversely affected through human activities in and around such areas. Certain permanent installations to maintain conditions for wildlife and fish, upon consideration of their design, placement, duration, and use, may be permitted if the resulting change is compatible with preserving wilderness character and is consistent with wilderness management objectives for the area, and if the installations are the minimum necessary to accomplish the task. Permissible actions under these criteria may include: installations to protect sources of water on which native wildlife depend, such as enclosures; and water sources such as springs, wells, and guzzlers.

Upon development of site-specific project plans for new artificial waters in wilderness, separate environmental review, including "minimum tool analysis" which specifies the manner in which projects are to be completed, will be necessary. Guidelines furnished in BLM Handbook H-8560-1 (07-27-88), Management of Designated Wilderness Areas, include building new wildlife management structures in a manner that minimizes visual impacts on the landscape.

Reintroduction of Native Species in Wilderness. In accordance with BLM Manual 8560, reintroduction of native species may be allowed:

In some instances, wildlife species once native to the wilderness have been forced from their original habitat by encroachment of human beings and human activities. To the extent that these factors can be altered or managed within the intent of the Wilderness Act, native species no longer established in the wilderness area may be reintroduced and managed as a part of the wilderness resource. Care must be exercised to be certain that the species is native. Such programs are addressed in the wilderness management plan.

Guidelines furnished in BLM Handbook H-8560-1 indicate that motorized methods and temporary holding and handling facilities may be permitted if they are the minimum necessary to accomplish an approved transplant.

Research in Wilderness. Title 43 CFR 6302.16 states that gathering information about natural resources in wilderness, where methods may include motorized equipment and/or more than minimal surface disturbance, may only occur if:

- ▶ Similar research opportunities are not available outside wilderness.
- ▶ The activity is carried out in a manner compatible with the preservation of the wilderness environment and conforming to the applicable management plan.
- ▶ Any ground disturbance or removal of material is the minimum necessary for the scientific purposes of the research.
- ▶ BLM has authorized the activity.
- ▶ All areas of disturbance are reclaimed; a bond for reclamation may be required.

This provision is reiterated in BLM Manual 8560. The Manual further provides for research and scientific activities that use wilderness areas for study of natural environments and ecosystems. It requires that such research and collection of information be conducted in an unobtrusive manner by methods compatible with the preservation of the area's wilderness character. Research and other studies must be conducted without use of motorized equipment or construction of temporary or permanent structures, except when approved by the State Director for projects that are essential to managing the specific wilderness when no other feasible alternatives exist. Such use, when approved, must be the minimum necessary and must not degrade the area's wilderness character. Relative to structures and facilities proposed by other agencies conducting activities within BLM wilderness, such agencies are equally constrained by provisions of the Wilderness Act that are applicable to BLM.

The CDCA Plan (1980), as amended, requires approval of the authorized officer for research activities conducted on BLM lands, including those within designated wilderness. Whenever required, all permits, authorizations, and/or licenses will be issued at the discretion of the authorized officer.

Wildlife Management Activities. On September 24, 1997, the BLM and California Department of Fish and Game (CDFG) entered into a Memorandum of Understanding to establish a framework for cooperation and procedures for CDFG maintenance, management, and research activities in BLM wilderness where motorized vehicle and equipment use is involved. Section 103(f) of the CDPA states:

Management activities to maintain or restore fish and wildlife populations and the habitats to support such populations may be carried out within wilderness areas designated by this title and shall include the use of motorized vehicles by the appropriate State agencies.

Through the Memorandum of Understanding, both agencies agree to protect and preserve the wilderness character and values of the areas while carrying out CDFG's wildlife management mission.

3.1.5 Farmlands

Although farming does occur extensively in the southern portion of the Coachella Valley planning area, these farms are all located on private lands, and not on BLM-managed public lands.

3.1.6 Livestock Grazing

Background. Livestock grazing has occurred in the Coachella Valley planning area for many decades. In general, cattle grazing use has declined since World War II (BLM, 1980), and grazing use within the Planning Area has declined since allocations for livestock use were made in the *California Desert Conservation Area Plan*, 1980. After enactment of the Taylor Grazing Act of 1934, "open" range grazing use became restricted to geographical areas allotted to one or more livestock producers based on historical or current grazing use. Until publication of a grazing rule on December 7, 1968, the BLM allocated long-term grazing use based on perennial forage production. However, there were many areas of the Southwest, including the Planning Area, that did not produce perennial forage and grazing use was based on consumption of annual grasses and forbs or ephemeral production. This new rule authorized BLM field offices in Arizona, California, and Nevada to modify ill-suited perennial classified allotments from perennial designation to ephemeral or ephemeral/perennial designation.

This administrative modification drastically changed the way livestock producers requested authorization of grazing use on ephemeral rangelands. The change no longer required an annual application for perennial forage grazing use nor required substantial use of base property (privately controlled non-BLM grazing lands), and grazing use would be based on a reasonable potential for growth of annual plants. Those allotments with perennial forage have an established amount of annual grazing use, based on the quality of the perennial plants, stated in animal unit months (AUMs) for a defined period of grazing use. Perennial grazing use is typically authorized at the same level from year to year unless forage production does not meet seasonal norms. However, grazing use in allotments with ephemeral forage do not have an established level of use nor a period of use instead of the amount of AUMs and the length of the grazing season are determined prior to authorized grazing use.

Typical ephemeral use on a perennial/ephemeral allotment requires two circumstances to be present before ephemeral grazing use occurs. First, sufficient forage of annual grasses and forbs must be available, and secondly, the lessee must have livestock for turnout. Surprising as it may seem, these two conditions do not easily coincide because livestock producers during any year may have abundant numbers of livestock to graze forage on the allotment, but there could be insufficient feed and vice-versa. When weather conditions have been favorable and the livestock producer submits a written request for grazing use, the BLM reviews plant and soil conditions throughout the allotment in preparation for potential grazing use. This field review will determine the amount of forage available, potential grazing areas, and potential restrictions of grazing use.

Whitewater Canyon Allotment. The 65.911 acres Whitewater Canyon Allotment, created by the CDCA plan in 1980, is the only BLM grazing allotment in the planning area. The Whitewater Canyon allotment is located in the area north of Interstate 10 and west and north of State Highway 62 in the San Bernardino Mountains, approximately 15 miles northwest of Palm Springs. Elevations vary between 2500 and 6500 feet, providing both low elevation winter range and high elevation summer range. The total available Federal range within the allotment boundaries is 38,936 acres. The allotment also encompasses 26,975 acres of non-Federal lands that are heavily intermixed with the public lands within the allotment, particularly within that portion in San Bernardino County.

The allotment has a year-long season of use on perennial forage with additional grazing capacity on ephemeral forage when it is seasonally available above a pre-determined threshold of 200 pounds (dry weight) per acre. The allotment is divided into 11 pastures that are grazed at different times of the year depending on elevation. The perennial grazing capacity of 990 AUMs allows the permittee to graze up to 119 head of cattle year-long. Additional capacity is available when ephemeral forage exceeds 200 pounds dry weight per acre. Since 1980, no lessee has utilized the ephemeral component of this allotment. Water is available in each pasture with the exception of the Devil's Garden area in the southern portion of the allotment where water is hauled in. The allotment contains a number of range improvements, including wells, improved springs, fences and corrals.

BLM's grazing season starts March 1 and concludes the last day of February of the following year. All grazing activities are to be carried out in conformance with the grazing regulations, standards for rangeland health, guidelines for grazing management, the allotment management plan, and direction provided in the CDCA Plan. Current grazing activities are further constrained by mitigation measures listed for desert tortoise and their habitat in a programmatic biological opinions for cattle grazing completed in 1994 and 1997. No portion of the Whitewater Canyon allotment is within designated critical habitat for the desert tortoise.

Grazing Activities. The area encompassed by the Whitewater allotment has been grazed by cattle since the 1870's. In 1986, Tom Humpreville and Terry Anderson acquired the lease and ran a cow-calf operation as the O-Bar-O Cattle Company. In 1998, The Wildlands Conservancy (TWC) acquired the lease, and O-Bar-O continued to graze the allotment under TWC's lease until June, 1999. In June of 1999, the last cattle were removed. There are currently no livestock on the allotment. The Wildlands Conservancy (TWC) is still the current permittee. The following table summarizes the history of this allotment from 1989 to the present:

Table 3-4: History of the Whitewater Canyon Allotment

Year	# Livestock	Season	AUMs
1989	119	3/1-2/28	985
1990	119	3/1-2/28	985
1991	119	3/1-2/28	985
1992	119	3/1-2/28	985
1993	119	3/1-2/28	985
1994	119	3/1-2/28	985
1995	50	3/1-8/4	173
1995	59	8/5-2/28	285
1996	59	3/1-2/28	489
1997	30	3/1-2/28	124
1998	50	3/1-3/31	35
1998	30	4/1-5/31	41
1998	15	6/1-6/30	10
1998	10	7/1-2/29	55
1999	10	3/1-6/30	28
1999	0	7/1-Present	0

Despite the checkerboard land ownership pattern north of the Riverside-San Bernardino county line, the previous permittees were able to work with private landowners to facilitate physical access and livestock grazing privileges on private lands necessary to make use of much of the Federal range and livestock handling facilities that are "landlocked" by surrounding private lands. Between 1986 and 1999, loose partnerships and various agreements were made between private landowners within and adjacent to the allotment and the permittee to facilitate the physical and livestock access necessary to fully utilize the allotment.

After the Wildlands Conservancy acquired the grazing permit and became a key landowner in the area, the direction of private land management (both individual and non-profit group) and the aforementioned partnerships has changed, such that many of the sometimes hard won

access agreements no longer exist. Landowners holding major land holdings within the allotment have changed their private management strategies in a manner that could be in conflict with grazing use on intermingled public lands. The landowners that control access to key portions of the allotment also may refuse access to The Wildlands Conservancy or other permittees. Access to the allotment is necessary to maintain range improvements, turn out or gather livestock, move livestock between pastures, or other access to gain full and proper use of the allotment.

Most of this situation exists in San Bernardino County, where a “free range” ordinance exists. This ordinance places the responsibility of exclusion of cattle from private lands on the landowners themselves. In essence, this means two things: 1) to exclude cattle from checkerboarded private lands, landowners will be responsible for fencing many miles of mountainous terrain, and 2) if this is done, major portions of the northern portion of the allotment, including some water sources and livestock handling facilities, will be inaccessible. Also, there is no dedicated public access across private lands to key portions of the allotment. These are Big Morongo Canyon, Mission Creek, and Whitewater Canyon at the trout hatchery. Given past indications from landowners controlling these three important access points, it is likely that future physical access for livestock operators would not be granted.

Grazing Administration. The BLM conducts a series of actions to authorize livestock grazing use. Depending on the type of lease, livestock producers apply to graze livestock annually or as conditions permit. Grazing use is permitted with written authorization, and terms and conditions for grazing use are listed as necessary. The BLM conducts field visits throughout the grazing period to ensure grazing use is occurring as authorized. Range improvements are inspected as prescribed to determine condition and future utility.

In 1999, the BLM conducted Rangeland Health Assessments on the Whitewater Canyon allotment and found areas not meeting the National Fallback Standards for soil permeability, riparian health, and stream morphology. Riparian/wetland vegetation along the Whitewater River did not meet standards due to an infestation of tamarisk. It is anticipated that initiation of a tamarisk removal program coupled with the exclusion of livestock from the area would quickly improve vegetative conditions. Upland soil permeability standards south of Gold Canyon, in the southern end of the allotment, also failed to achieve standards due to fragmented cryptogamic soil crusts. This area, along with the rest of the allotment, has not had any authorized grazing use since 1999, and it is anticipated that further rest will continue to facilitate recovery of damaged soil crusts. Otherwise, the remainder of the allotment is meeting all standards. California BLM has made a concerted effort to categorize allotments into four areas based on successful attainment of rangeland health standards. This categorization process coupled with an existing categorization (Selective Management) strategy of allotments based on their potential to improve resource conditions with less funding.

In 2001, critical habitat was designated within the allotment for the arroyo toad. Desert tortoise, least Bell’s vireo, southwestern willow flycatcher, and triple-ribbed milkvetch are other federally listed species found on the allotment. Further, in 2000, the Center for Biological Diversity, et. al. (Center) filed for injunctive relief for failure to consult with the U.S. Fish & Wildlife Service (FWS) on the effects of implementation of the CDCA Plan to threatened and endangered species. As part of BLM’s settlement agreement with the Center, signed in 2001, livestock grazing on the Whitewater Canyon allotment is prohibited pending the issuance of a biological opinion for the effects of livestock grazing under the CDCA Plan, or until January 31, 2002, whichever is later. Given the changes in management practices on intermingled private lands within the allotment, resource concerns stemming from Rangeland Health Assessments, and the presence of threatened and endangered species and resultant litigation, the management of livestock grazing on this allotment needs to be re-evaluated.

3.1.7 Wild Horse and Burro Herd Management Areas

Management of wild free-roaming horses and burros was authorized by Congress under the Act of December 15, 1971 (PL 92-195) 16 U.S.C. 1331-1340 (Act) as amended by The Federal Land Policy and Management Act of 1976 (PL 94-579) and The Public Rangelands Improvement Act of 1978 (PL 95-514). The regulations found at 43 CFR Part 4700 and the 4700 BLM Manual series prescribe the authorities, objectives, and policies that guide the protection, management, control, and disposition of wild free-roaming horses and burros in accordance with the Act. Through the Act, Congress declared that "It is the policy of Congress that wild free-roaming horses and burros shall be protected from capture, branding, harassment, or death; and to accomplish this they are to be considered in the area where presently found, as an integral part of the natural system of the public lands" and are to be managed "in a thriving natural ecological balance". The policy of the BLM is to manage wild horses and burros in a manner that will insure healthy herds for future generations of Americans and contribute to the diversity of life forms on public lands administered by the BLM. The Act does not apply to lands managed by the Department of Defense or the National Park Service (although such management is not prohibited on those lands). The areas where wild horses and burros were known to exist at the time of the passage of the Wild Horse and Burro Act in the California Desert District are addressed in the CDCA Plan (1980, as amended; see Wild Horse and Burro Management Area, Map No. 8). To the extent that wild horses and burros roam outside an HMA they are considered a nuisance and can be removed from the non-HMA area. It is the policy of BLM to manage and remove excess and nuisance animals through humane, live-capture means and place them in private maintenance through BLM's Adopt-a-Horse/Burro program. A discussion of these Herd Management Areas follows.

Palm Canyon. The Palm Canyon HMA, created in 1980 under the CDCA Plan, encompasses 11,500 acres and is located immediately south of the City of Palm Springs. Land ownership within this HMA is 21% BLM, 26% Agua Caliente Band of Cahuilla Indians tribal lands (ACBCI), 14% San Bernardino National Forest, and 39% private. The CDCA Plan originally set the herd management level at 6 horses, which was the size of the herd existing in 1980. In 1994, there were 2 horses remaining of the original 6. It was thought that these animals would live out their lives and then the HML would be set to 0. In 1997, 4 horses adopted through BLM's Adopt-a-Horse/Burro program were released into the HMA. This release was not authorized by BLM or the Agua Caliente Band of Cahuilla Indians. These horses are identified by freeze brands and are not considered "wild" under the Act. As of August, 2000, 8 horses were present on the HMA. This herd consists of:

- ▶ Four branded animals: one stallion and three mares;
- ▶ Three unbranded offspring: one yearling mare, one foal and one stud;
- ▶ One unbranded mare (the last descendent of the original herd of 6).

Field reconnaissance has shown that these animals are using Agua Caliente Band of Cahuilla Indians tribal lands about 90% of the time. These lands contain the only perennial water source, Dos Palmas spring, and adequate forage. The remaining 10% of the use is on public lands. These horses have created conflicts with equestrian trail users. The stallion has been aggressive towards trail riders, resulting in at least one thrown rider. The Tribe has closed trails that it manages in Palm Canyon to equestrians. There are potential habitat conflicts with the peninsular ranges bighorn sheep. There also may be sentiments within the Agua Caliente Tribal membership to maintain these animals, at least on Tribal lands. The BLM would like to work closely with the Agua Caliente Band of Cahuilla Indians to determine the future of the Indian Canyons horses and the Palm Canyon Herd Management Area. If these animals were to be removed, only the 4 branded animals would be removed as nuisance animals and the remaining would fall under the Act.

Morongo. The Morongo HMA is located approximately 15 miles northwest of the City of Palm Springs. Much of this HMA is within what is now the San Geronio Wilderness. This 39,100 acre HMA is composed of 65% BLM lands and 35% private lands. In 1980, the HML for this area was set at 16 burros in the CDCA Plan, with an excess of 9 burros. A 1985 CDCA Plan amendment changed the HML to 0. Subsequent to that amendment, records indicate that burro

numbers fluctuated greatly, reaching as many as 50 burros in 1987 to 0 in 1993. There are currently no burros within this HMA and there are no known sources of new burro populations that may migrate into the area.

Coyote Canyon. The Coyote Canyon Herd Management Area (HMA) was deleted from the CDCA Plan through a 1998 plan amendment conducted out of the Palm Springs-South Coast Field Office. This former HMA was located in the northwest portion of what is now the Anza-Borrego State Park just north of the Riverside-San Diego county line. When the HMA was created by the CDCA Plan in 1980, it had a HML of 20 horses. The subsequent history of this HMA is sketchy, but a 1985 CDCA Plan amendment set the HML to 0. In 1993, the BLM lands within the HMA were transferred to the State of California to become part of the state park system. This transfer of ownership had the effect of nullifying the HMA and its management under the Act. In 1995, the State removed remaining horses to protect riparian areas in Coyote Canyon. Any horses that may continue to exist within Coyote Canyon are now under the jurisdiction of the State of California.

3.2 Transportation, Traffic and Circulation

3.2.1 Coachella Valley Roadways

The Coachella Valley CDCA planning area encompasses a unique geography that influences and constraints, which have shaped the regional roadway network. The valley is a northwest-southeast trending basin, bounded by high mountains that impose significant physical restrictions on roadway planning and construction opportunities in the valley, and have contributed to the convergence of high traffic volumes onto a limited number of roadways.

Among the earliest “roads” passing through the Coachella Valley was an Indian trade route known as the Cocomaricopa Trail, later renamed the Bradshaw Trail, which was one of the most important desert trails in southern California during the 1860s and 1870s. The course of the trail was largely influenced by regional topography, and throughout much of the valley, the Bradshaw Trail closely followed the toe of slope of the Santa Rosa Mountains. It took advantage of mountain spurs, which project into the valley floor, and their ability to naturally shield travelers from strong winds and blowing sand and dust. The logical placement of the Bradshaw Trail led to the establishment of permanent settlements within the coves of the Santa Rosa Mountains during the early twentieth century. The “cove communities” were strategically located where buildings and residents could be shielded from the harsh desert environment. The Bradshaw Trail was eventually replaced by State Highway 111, which provides important connectivity between the cove communities.

The region is interconnected by state and interstate highways, most notably Interstate-10, the aforementioned Highway 111, Highway 74, Highway 62 and Highway 86. Local circulation is also facilitated through a web of arterial roadways built on a north-south/east-west grid pattern. In many locations, the region’s north-south/east-west trending land use patterns and roadway grid conflict with its northwest-southeast trending topography, and the combination of these has created an intra-regional transportation challenge. The following briefly describes major roadways, which pass through or near the CDCA planning area.

Many BLM parcels in the planning area are remote, undeveloped, and inaccessible to motor vehicles. Others are accessible for off-highway and recreational vehicle use, and are designated accordingly through BLM’s Motorized Vehicle Route Designation process (see Motorized-Vehicle Access), or are accessible only to authorized vehicles for specific activities (e.g. rights-of-way issued for development of communication sites or wind energy facilities).

However, a limited number of BLM parcels are crossed by major arterials, highways, and/or railroad corridors and provide for the continuous transport of persons and goods. These transportation facilities have easements which allow them to cross BLM land. Nonetheless, as described below, some issues pertaining to rights-of-way on public land are unresolved. Descriptions of the primary linkages that pass directly through BLM parcels in the CDCA planning area follow.

Interstate-10. The Coachella Valley is bisected by Interstate-10, which connects the valley with the Los Angeles, Riverside, and San Bernardino metropolitan areas to the west and the Phoenix region to the east. I-10 is a critical component of the regional road network and provides intra-regional and inter-city access within the valley. It consists of a divided freeway accessed from diamond-shaped interchanges spaced a minimum of one mile apart.

Interstate-10 lies along the geographic center and northwest-southeast axis of the Coachella Valley. It occurs within the valley’s central drainage area and lies parallel to the prevailing winds emanating from the San Geronio Pass. With the exception of the Thousand Palms community, land adjacent to I-10 remains largely undeveloped due to the presence of high winds and blowing sand and the potential for flooding.

Within the CDCA planning area, I-10 makes limited passage through BLM CDCA lands, including lands at Whitewater Hill near the San Geronio Pass, lands east of Palm Drive

and southwest of the BLM's Willow Hole ACEC, and portions of the checkerboard BLM ownership pattern located north and northwest of the Mecca Hills Wilderness.

State Highway 111. State Highway 111 is essentially an intra-valley roadway, which connects the valley with communities of the Imperial Valley to the southeast. In the vicinity of its westerly terminus at I-10 in the San Geronio Pass, Highway 111 passes through BLM lands located at Windy Point and Desert Angel. Highway 111 does not cross BLM lands again until just southwest of the Dos Palmas ACEC, and then through the checkerboard BLM ownership pattern approximately six miles southeast of Dos Palmas.

State Highway 62. State Highway 62, a north-south trending four-lane divided highway, passes through the northwesterly portion of the Coachella Valley. It extends north from I-10, just east of the San Geronio Pass, to communities in the Morongo Basin and high desert in San Bernardino County. Only a very small sliver of BLM land is co-terminus with I-10/ Highway 62 on/off ramps just east of Whitewater Hill.

State Highway 74. State Highway 74 connects the Coachella Valley with communities in southwestern Riverside County and northern San Diego County. It extends south from State Highway 111 in the City of Palm Desert, into the rocky terrain of the Santa Rosa Wilderness, through lands recently designated as critical habitat for the Peninsular bighorn sheep by the U.S. Fish and Wildlife Service. It proceeds west, then northwest, into the San Bernardino National Forest, to the mountain community of Mountain Center and the Hemet Valley. BLM lands within the CDCA planning area crossed or bordered by Highway 74 include holdings in Dead Indian, Grapevine and Carrizo Canyons, extending from the toe of the mountain and into elevated terrain.

Ramon Road. Ramon Road has serves as an arterial connector for local traffic from Palm Springs to Washington Street just east of the Coachella Valley Preserve. This road is bordered by BLM lands in the vicinity of Thousand palms Canyon Road.

Dillon Road. Dillon Road is a two-lane, northeast-southwest trending arterial that crosses the northern portion of the Coachella Valley. It extends from the Indio/Coachella city boundary at State Route 86, passes under Interstate-10, and continues northwest through the valley. It passes on the north side of the Indio Hills, through the Sky Valley community, to State Highway 62 in the southern portion of Desert Hot Springs. Its passage through or adjacent to BLM lands is limited to holdings in the vicinity of East Wide Canyon, scattered BLM lands in Sky Valley, and one section (Section 30) located about three miles north of the Coachella Branch of the All American Canal.

Varner Road. Varner Road is a two-lane arterial, which runs just north of and generally parallel to Interstate-10. It extends from Palm Drive on the west to the I-10/Jefferson Street interchange near Bermuda Dunes on the east. Segments of Varner Road follow the route of the historic Ocean-to-Ocean Highway, a link of the transcontinental highway. Although exact dates are unclear, archival sources trace the construction of the Ocean-to-Ocean Highway to the late 1930s. It primarily served as a route for crossing through the valley, rather than one that accommodated intra-valley travel.

Although Varner Road provides important local access, its functionality west of Thousand Palms is limited. Most lands north of Varner Road in this vicinity are undeveloped lands in the Indio Hills, which are subject to high winds, blowsand, and flash flooding, and have limited potential for future development. East of Thousand Palms, the utility of Varner Road is limited to its role as a frontage road adjacent to I-10. Important BLM lands within the Willow Hole ACEC are traversed by Varner Road in the vicinity of Edom Hill. No other BLM lands are impacted by this roadway.

Indian Avenue/Indian Canyon Drive. Indian Avenue/Indian Canyon Drive extends north from south Palm Springs, to the Little San Bernardino Mountains northwest of Desert Hot Springs. This major arterial connects traffic from Interstate-10 with the City of

Palm Springs to the south, and Desert Hot Springs and Highway 62 to the north. South of Interstate-10, it crosses a broad 100-year floodplain, which is associated with the Whitewater River and is up to two miles wide in some locations. It is at this location that Indian Avenue runs along the eastern boundary of BLM lands, portions of which have been leased for wind energy development.

Thousand Palms Canyon Road. Although not considered a major regional arterial, Thousand Palms Canyon Road is an important two-lane roadway that provides the only north-south connection through the Indio Hills. It is located approximately two miles east of the community of Thousand Palms, and extends from Ramon Road on the south, to Dillon Road on the north. It passes through portions of four BLM sections, which are part of the Coachella Valley Preserve and the sensitive biological habitat contained therein.

Rail Service. Freight and passenger rail services are offered along the Union Pacific Railroad, which was built in second half of the nineteenth century. The railroad originally was part of the transcontinental railroad, which connected the Pacific coast with Yuma, Arizona. It enters the Coachella Valley from the west through the San Geronio Pass and proceeds east, parallel to Interstate-10. In the City of Indio, it turns southeast and continues along the east side of the Salton Sea. Union Pacific rail lines pass through several BLM holdings within the CDCA planning area, including lands at Windy Point, lands immediately west of Garnet Hill, and lands southwest of the Willow Hole ACEC. The railroad right-of-way does not cross BLM lands again until just southwest of the Dos Palmas ACEC, and then through the checkerboard BLM ownership pattern approximately six miles southeast of Dos Palmas.

3.2.2 R.S. 2477 and Rights-of-Way Issues

Revised Statute 2477 (R.S. 2477) was passed by Congress as Section 8 of the Mining Act of 1866, which established the first system for patenting lode-mining claims and provided for access. R.S. 2477 stated “the right-of-way for the construction of highways over public lands, not reserved for public uses, is hereby granted.” It was repealed when the Federal Land Policy and Management Act (FLPMA) was enacted on October 21, 1976. However, FLPMA did not terminate any existing “rights-of-way” granted under R.S. 2477.

There are often questions about what was offered under R.S. 2477, to whom, and how the rights-of-way were to be perfected. These questions have not been answered in a clear and consistent manner either locally or nationally. Many routes across public land came into existence with no documentation of the public land records. Routes across public land constructed after 1866, but before withdrawal, patent, mining claim, or reservation for a specific purpose, and before the passage of FLPMA may be R.S. 2477 rights-of-way.

In an attempt to clear up these ambiguities, Congress directed the Department of the Interior to study the history, impacts, status, and alternatives to R.S. 2477 rights-of-way and to make recommendations for processing claims (assertions). This process began in November 1992. Public meetings were held to assist in preparing a report that was submitted to Congress in May 1993. The report stated that, until completion of the report, the Department “...deferred processing pending claims unless there is an immediate and compelling need to recognize or deny any claims.”

The BLM was directed to prepare regulations to guide the process of reviewing R.S. 2477 claims. Draft regulations were published in 1994. Three terms are important in determining which roads are R.S. 2477 rights-of-way: (1) “construction,” (2) “highways,” and (3) “not reserved for public uses.” The terms “construction” and “highways” are the most controversial provisions of R.S. 2477 and the regulations. On November 19, 1995, Congress approved a moratorium on the regulations. Because there are no final regulations that provide criteria for processing claims under R.S. 2477, the policy of deferring the processing of claims unless there is a compelling need remains in place.

The route network identified under the Preferred Alternative was developed through a route designation process that considered resource management issues and regulatory and statutory closures (such as in designated wilderness). This process did not make any determinations under R.S. 2477. If a route were proposed for designation as “closed,” such a designation would not constitute a determination that an R.S. 2477 right-of-way does not exist. Such closure does not extinguish any R.S. 2477 right-of-way that may exist. Conversely, a route designated as “open” does not mean that the route was determined to be an R.S. 2477 right-of-way.

3.3 Soils, Geology, Mineral and Energy Resources

3.3.1 Soils and Geology

The Coachella Valley is located in the northwestern portion of a broad, tectonic depression known as the Salton Trough, which is approximately 130 miles long and 70 miles wide and extends from the Gulf of California to the San Geronio Pass. The Salton Trough is actually the northern portion of the Gulf of California, a rift basin formed by oblique strike-slip motion between the North American and Pacific tectonic plates. Given its geologic position, the Coachella Valley region is highly susceptible to seismically-induced and other geologic hazards.

Regional Soils and Surficial Rocks. The valley includes a diverse range of rocks and sediments, which were formed or deposited over millions of years. The oldest rock formations are basement rocks, which compose the mountain ranges bordering the valley. Mountains of the Peninsular Range geologic province, including the San Jacinto and Santa Rosa Mountains, are composed of fairly old (Mesozoic) granitic rock, which has intruded even older metasedimentary rock of Mesozoic and Paleozoic age.¹ Mountains of the Transverse Range province, including the San Bernardino, Little San Bernardino and Orocopia Mountains, consist of a pre-Cenozoic crystalline basement complex, which is primarily composed of batholithic granite that has intruded numerous pendants of metamorphic rock.²

Over millions of years, the Salton Trough has been filled with sedimentary deposits up to 20,000 feet thick. Various sedimentary layers, or formations, are exposed throughout the Coachella Valley, particularly in the Indio and Mecca Hills and near Whitewater Canyon. The oldest sedimentary formation, known as Coachella Conglomerate, is composed of debris-flow and stream-laid deposits of gneiss, granite, and volcanic rock.³ The Imperial Formation, which is probably of early Pleistocene age, was deposited when the Gulf of California extended into the northern reaches of the Coachella Valley and contains marine fossils in its sandstone layer. Ocotillo Formation, which is extensively exposed in the Indio and Mecca Hills, is largely composed of cobble, gravel, and sand containing granite and metamorphic units.

The most recently laid sediments in the region are alluvial (stream-deposited) and eolian (wind-deposited) sediments. Alluvial sediments typically consist of gravel, sand, and clay deposited by mountain streams and found within alluvial fans and the lower reaches of mountain canyons. In the vicinity of the Salton Sea, they consist of fine clay that is probably lacustrine (lake) in origin. Eolian deposits are silty sand and fine and medium-grained sand fractions that are transported by strong, sustained winds emanating from the San Geronio Pass.

Seismic Activity in the Planning Area. Given its location within the Salton Trough, the Coachella Valley is highly susceptible to seismic activity and seismically-induced geologic hazards. The San Andreas Fault, which accommodates the majority of movement between the Pacific and North American plates, passes directly through the Coachella Valley. The San Bernardino Mountains segment of the San Andreas Fault extends from the Cajon Pass area, east-southeast to its terminus at the northwestern city limits of Desert Hot Springs. Its strike slip rate is estimated at 22 mm/year \pm 5 mm/year, and the most recent surface-rupturing earthquake on this segment is believed to have occurred in 1812.⁴ The Coachella Valley segment of the San Andreas Fault crosses through the northern portion of the valley. It is creeping at a rate of about 2 to 4 mm/year, with a long-term slip rate of about 25 mm/year \pm 5 mm/year.⁵

¹ "Emerging Perspectives of the Salton Trough Region with an Emphasis on Extensional Faulting and its Implications for Later San Andreas Deformation," Eric G. Frost, Steve C. Suitt, Mitra Fattahipour.

² "Geology of the Southeastern San Andreas Fault Zone in the Coachella Valley Area, Southern California," Thomas W. Dibblee, Jr.

³ Ibid.

"Technical Background Report to the Safety Element for the General Plan of Cathedral City," Earth Consultants International, Inc., June 1999.

⁵ Ibid.

The Coachella Valley segment consists of two distinct strands: 1) the Mission Creek Fault (also known as the North Branch or San Andreas Fault strand), and 2) the Banning Fault (also known as the South Branch fault). These strands run roughly parallel to one another in the northern portion of the valley, but converge into a single strand in the southeastern Indio Hills. They continue southeast as the Indio segment, to the northeast side of the Salton Sea. These faults are believed to be capable of generating magnitude 7.1 and 7.4 earthquakes, respectively.⁶ The Banning Fault is believed to have been the source of the 1986 North Palm Springs earthquake (magnitude 5.9), which resulted in extensive ground fracturing between Whitewater Canyon and State Highway 62.

Several other faults of relatively short length have been documented throughout the valley. The Garnet Hill Fault extends roughly from Whitewater Canyon to the vicinity of Edom Hill, although it is mapped as an inferred and concealed fault as it approaches Edom Hill. Others in the vicinity of Desert Hot Springs include the Devers Hill Fault, White House Canyon Fault, Blind Canyon Fault, and Long Canyon Fault. The Blue Cut Fault is located at the northeastern extreme of the Coachella Valley, along the northern flank of the Eagle Mountains. The Mecca Hills have been significantly uplifted and folded by seismic activity along the San Andreas and other faults in the vicinity, including the Painted Canyon, northern Painted Canyon, Eagle Canyon, and Grotto/Hidden Spring faults.

The Pinto Mountain and Morongo Valley Faults pass directly through the Morongo Valley portion of the planning area. The Morongo Valley Fault is a left-lateral strike-slip fault with a length of 18 kilometers and a slip rate of less than 0.5 mm/year. Probable earthquake magnitudes this fault may generate range from magnitude 6.0 to 6.8. The Pinto Mountain Fault is traceable for approximately 47 miles, from its junction with the Mission Creek branch of the San Andreas Fault to just east of the City of Twentynine Palms. The Anza-Borrego portion of the planning area is traversed by several active strike-slip faults of the San Jacinto Fault Zone, including the northwest-striking Coyote Creek, Buck Ridge, and Clark faults.

Other major faults and fault zones are located outside the region, but have the potential to generate strong ground shaking and other seismic hazards within the valley. The San Jacinto Fault Zone lies along the western margin of the San Jacinto Mountains, approximately 10 to 15 miles southwest of the Coachella Valley. The Elsinore Fault Zone, located about 30 miles southwest of the Coachella Valley, is one of southern California's largest fault zones (over 140 miles in length) and is capable of generating magnitude 6.5 to 7.5 earthquakes. The Mojave Shear Zone (also known as the Eastern California Shear Zone), located in the southern Mojave Desert, north of the Coachella Valley, consists of several northwest-southeast trending faults that collectively appear to be accommodating between 9 and 23 percent of the movement between the North American and Pacific plates.⁷

Geologic Hazards. Given that the planning area is traversed by, or in close proximity to numerous active and potentially active faults, it is highly susceptible to seismically-induced and other geologic hazards. Strong ground shaking is undoubtedly the most significant seismic hazard facing the Coachella Valley. According to the USGS National Seismic Hazard Mapping system, the easterly portion of the valley, generally extending from Desert Hot Springs to the northeast Salton Sea, can be expected to experience "extremely high" peak horizontal accelerations of greater than 40% the force of gravity, with a 10% probability of being exceeded in 50 years. The zones to the immediate east and west are expected to experience "very high" peak horizontal ground accelerations between 30% and 40% the force of gravity, with a 10% probability of being exceeded in 50 years. The potential ground motions likely to occur in these zones are among the highest in southern California.

Seismic activity can induce other geologic hazards, including surface fault rupture, liquefaction, slope instability, and settlement of loose, recently deposited sediments, such as windblown

⁶ Ibid.
⁷ Ibid.

sand and young alluvium. When liquefaction occurs, soils behave like a liquid or fluid-like substance and settle, resulting in structural damage or failure, lateral spreading, the buoyant rise of buried structures, and/or ground oscillation. The areas most prone to liquefaction include the desert floor in the eastern valley, generally east of La Quinta, and areas adjacent to faults which act as barriers to groundwater. The potential for landslides, rock falls, debris falls, and slumps to occur within and/or adjacent to the slopes of the mountains and hillsides in the planning area is moderate to high. Such hazards can be expected to occur where bedrock is intensely jointed or fractured, and where boulders are precariously perched on hillsides and slopes. Ridge top shattering may occur on the crests of Painted Hill, Edom Hill, and other steep, narrow ridges.

Other potential geologic hazards include hydroconsolidation, or soil collapse, which may affect the valley floor and alluvial fans, washes, and unlined drainage channels. Expansive soils, which contain significant amounts of clay particles and have the ability to give up (shrink) or take on (swell) water, typically occur within older alluvial fan deposits that emanate from mountainous slopes and within claystone layers of the Imperial Formation. Ground subsidence is the gradual settling or sinking of the ground surface with little or no horizontal movement, which in the Coachella Valley, is primarily associated with long-term groundwater extraction. Subsidence is most likely to occur in the central and southeasterly portions of the Coachella Valley, which are underlain by numerous clay layers that separate water-producing zones, and at or near the valley margins. Much of the central valley floor is also susceptible to moderate to severe wind erosion, which results in the transport and re-deposition of dry, sandy, finely granulated soils. The movement of abrasive, sandy soils can pose a serious public health hazard, reduce visibility, damage buildings and vehicles, and contribute to nutrient losses in plants.

3.3.2 Mineral Resources

Mineral resources in the planning area are largely limited to aggregate (sand, gravel, and crushed stone), which is a major component of concrete, plaster, stucco, road base, and fill and is essential to the construction industry. Important deposits of these materials occur within the region and are actively being developed. Other mineral deposits occurring in the region include copper, limestone, specialty sands, and tungsten. These deposits are limited to rocky outcroppings within the Little San Bernardino and Santa Rosa Mountains and have not been mined.

In 1988, the California Department of Conservation Division of Mines and Geology (DMG) released a report identifying aggregate materials in the Palm Springs Production-Consumption Region. The region includes 629 square miles in the Coachella Valley, generally extending from Cabazon on the west to Mecca on the east. The study found that 3.2 billion tons of aggregate resources have been identified in the region. It assigned Mineral Resource Zone (MRZ) classifications to all lands within the region, which describe the location of significant PCC-grade aggregate deposits:

MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence. Includes Quaternary alluvial deposits of the central upper Coachella Valley, the Imperial Formation of the Indio Hills, Garnet Hill, the hills west of Whitewater River Canyon, and the Borrego Formation of the southeastern Coachella Valley.

MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists. Includes the following areas: 1) Whitewater River floodplain extending from the Whitewater River Trout Farm to the City of Palm Springs, 2) San Geronio River floodplain from Cabazon to its confluence with the Whitewater River, 3) the river channel in the lower part of Little Morongo Canyon, 4) a small alluvial wash north of Thousand Palms, 5) the confluent alluvial fans of Berdoo and West Berdoo Canyons, 6) the alluvial fan of Fargo Canyon, 7) an alluvial fan north of Indio, and 8) an alluvial wash and fan east of Thermal.

MRZ-3: Areas containing mineral deposits, the significance of which cannot be evaluated from available data. Includes lands composed of Cabezon Conglomerate, Ocotillo Conglomerate, Painted Hills Formation, Palm Springs Formation, Mecca Formation, and metamorphic rocks of the San Jacinto Mountains and the San Geronio Complex.

The 1980 CDCA Plan, as amended, permits the development of mineral resources on BLM-administered lands in a manner which satisfies national and local needs in an economically and environmentally sound manner. All mineral exploration and mining operations are subject to the Bureau's surface mining regulations under 43 CFR 3802 and 43 CFR 3809, which prohibit "undue degradation" of public lands. Currently, all BLM actions pertaining to realty and leasable minerals are considered on a case-by-case basis in accordance with the CDCA Plan (1980, as amended). Figure 2-7 identifies the location of existing BLM mineral leases in the planning area.

3.3.3 Energy Resources

The 1980 CDCA Plan, as amended, allows for the designation of utility corridor rights-of-way and the development of power plants and alternative energy sites on BLM lands.

Electrical Power. Southern California Edison (SCE) and the Imperial Irrigation District (IID) provide electric power services to the Coachella Valley. Both companies utilize a combination of hydroelectric, thermal, diesel, and geothermal power sources, most of which are located outside the valley. Electricity is distributed to the Coachella Valley via high-voltage (up to 500 kilovolts) transmission lines, which cross the valley along an east-west trending utility corridor north of Interstate-10. This corridor passes directly through or in close proximity to various parcels administered by BLM.

Natural Gas. Natural gas is found in association with petroleum crude oil deposits and is generally considered a clean and efficient fuel. The Southern California Gas Company provides natural gas services to much of the Coachella Valley. The fuel is transported from Texas to the Coachella Valley through three east-west trending gas lines, which cross the valley just north of Interstate-10 and continue west to Los Angeles. The pipelines include one 30-inch line and two 24-inch lines, with pressures of 2,000 pounds per square inch (psi). The pipeline utility corridor passes directly through or in close proximity to various parcels administered by BLM.

Wind Energy. The Coachella Valley's wind energy industry has proven to be an important renewable energy resource. According to the American Wind Energy Association, in January 2002, there were 19 different wind energy projects in the San Geronio Pass area, with a combined installed power capacity of 421.1 megawatts. In 1998 (the last year for which data are available), they generated an annual energy output of 805 million kWh. Another five wind energy projects, with a combined power capacity of 163.5 megawatts, are proposed for construction during 2002.

BLM's CDCA Plan (1980, as amended) allows for the development of windfarms on BLM-administered public lands in an environmentally sound manner. Project review and approval is conducted on a case-by-case basis. **Figure 2-7** identifies the location of existing wind energy parks on BLM lands in the planning area.

Solar Energy. Solar thermal systems are widely applied in the Coachella Valley for heating domestic water and swimming pools. However, such uses are largely limited to private lands.

Geothermal Energy. Geothermal resources are plentiful in the northwestern portion of the Coachella Valley. Geothermal hot springs in Desert Hot Springs are structurally controlled by faults and largely focused along the Mission Creek fault. The geothermal energy produced in Desert Hot Springs, which is primarily used for commercial spas and therapeutic pools, is harnessed on private land and does not affect lands administered by BLM.

3.4 Recreation

Among the Coachella Valley's most valuable assets are its unique and impressive scenic and ecological resources, which attract thousands of visitors each year. Much of the valley's recreational appeal is due to a combination of distinctive topography, temperate climate, desert wildlife and vegetation, and proximity to vast public parks and recreation lands. Following is a description of recreational opportunities on BLM lands in the CDCA planning area.

Trails. BLM maintains a developed trail system in the San Andreas Oasis portion of the Dos Palmas Preserve/ACEC, which is utilized by hikers, bird watchers, and other outdoor enthusiasts. The Big Morongo Canyon Preserve/ACEC also includes a developed trail system, which is frequented by hikers and bird watchers. Equestrian use is permitted on designated trails, including Canyon Trail, which is accessed from the southern portion of the ACEC, along Indian Avenue at the base of the Little San Bernardino Mountains.

BLM maintains a developed trailhead for the Pacific Crest National Scenic Trail at Cottonwood Canyon. Hiking and equestrian use is permitted on the trail, which extends from Mexico to Canada and passes through BLM's Whitewater Canyon ACEC and San Geronimo Wilderness Additions.

BLM, in cooperation with California Department of Fish and Game, also maintains the trailhead to the Art Smith Trail, which is located near the Santa Rosa and San Jacinto Mountains National Monument Visitor Center on Highway 74, south of the City of Palm Desert. The trailhead provides access to Carrizo and Dead Indian Canyons and serves as an important connector to an extensive trails network that traverses the Santa Rosa Mountains. Trails in this network are open to hikers, mountain bikers, and equestrians, except for several narrow and steep trails in the Murray Hill area (Palm Springs) that are closed to mountain bike use to avoid conflicts with horses. Trails in Carrizo Canyon Ecological Reserve are temporarily closed to all use on a seasonal basis from January 1 to September 30 by California Department of Fish and Game.

Within essential Peninsular Ranges bighorn sheep habitat, there are 153 miles of primary trails; other unnamed trails exist but have not been identified. Since 1998, trail users have been requested to voluntarily refrain from using certain trails in bighorn sheep habitat from January 1 to June 30 to minimize disturbance to bighorn sheep during the lambing season, with additional trails being included in 2001. These are: (1) Art Smith Trail, (2) Bear Creek Canyon Trail, (3) Bear Creek Oasis Trail, (4) Dunn Road, (5) Cathedral Canyon Trail, (6) Clara Burgess Trail, (7) Boo Hoff Trail, (8) Morrow Trail, (9) Guadalupe Trail, and (10) North Lykken Trail, totaling 33 miles in length. A portion of Dunn Road on private lands is currently posted as "no trespassing," hence closed to use. Trail users are also requested to voluntarily refrain from using the Bear Creek Oasis Trail, Guadalupe Trail, and a portion of the Art Smith Trail from July 1 through September 30 to facilitate bighorn sheep access to water sources. The voluntary trail avoidance programs are temporary pending a decision regarding the trails management element of the Coachella Valley Multiple Species Habitat Conservation Plan.

BLM staff conducted a trail user survey from January through June 2001, and from January through April 2002 to evaluate trail use patterns on eight trails in the Santa Rosa Mountains: (1) Art Smith Trail, (2) Bear Creek Canyon Trail, (3) Lower Dunn Road, (4) Upper Dunn Road, (5) Cathedral Canyon Trail, (6) Clara Burgess Trail, (7) Boo Hoff Trail, and (8) Morrow Trail. A total of 4,421 trail users were identified during this time period. Hikers accounted for 87%, mountain bikers for 11%, and equestrians for 2% of all trail users. Of the eight trails monitored, the Art Smith Trail received the most overall usage (87%). The Art Smith Trail also received the most use by hikers (59% of all observed hiking use on the eight trails); however, the Lower Dunn Road received the most use from mountain bikers (60% of all observed mountain biking use on the eight trails), and the Boo Hoff Trail received the most use from equestrians (63% of all observed equestrian use on the eight trails). A summary of trail use in the Santa Rosa Mountains is provided in Appendix E.

Camping. Primitive camping is permitted on all BLM land, except where expressly prohibited. Campers may occupy a single site for a maximum of 14 days, and then must move to a new location. Vehicle camping is permitted along open routes, but no more than 300 feet from the roadway, except in ACECs where the limit is 100 feet. No special permission or permits are required. BLM does not maintain any developed campsites within the Coachella Valley CDCA planning area. Current camping activity in the planning area is very low and incidental, except around Drop 31 where use occurs mostly on weekends and holidays. The following areas in the CDCA planning area are closed to camping: (1) Dos Palmas Preserve/ACEC, (2) Big Morongo Canyon Preserve/ACEC, and (3) Coachella Valley Thousand Palms Preserve (including the Willow Hole-Edom Hill ACEC).

Hunting. All hunting activity is regulated by the California Department of Fish and Game. Hunters must possess a valid hunting license and obey all laws and regulations pertaining to the use of firearms in California. Hunting is generally allowed on the BLM-managed public lands, except in developed recreation sites (43 CFR 8365.2-5). No hunting closures are proposed through this Coachella Valley CDCA Plan Amendment.

In collaboration with the State, Federal and local jurisdictions, hunting closures on BLM-managed lands may be proposed through the Coachella Valley Multiple Species Habitat Conservation Area Plan process for public safety and protection of listed species. Closure authority shall not be exercised without prior consultation with the State of California Department of Fish and Game (43 CFR 24.4 (i)(4).)

Rockhounding. Part 8365 of Title 43 CFR (Code of Federal Regulations) provides for the collecting of “reasonable” quantities of rocks, minerals, semiprecious gemstones, and invertebrate and plant fossils of non-scientific purpose for personal use. However, regulations do not permit collecting on “developed recreation sites and areas,” or where otherwise prohibited or posted. Informal discussions with local gem and mineral clubs indicate that the Coachella Valley is not known to contain significant gem and/or mineral resources. Therefore, rockhounding activity in the Valley is considered very low.

Off-Highway Vehicle Use. Off-highway vehicle (OHV) use is a popular recreational pastime in Southern California deserts. Four-wheel drive and OHV racing clubs utilize certain desert areas for group excursions, scrambles, competitions, and other organized events, though no competitive vehicular events on public lands in the Coachella Valley Planning Area have been authorized in many years. Individuals generally use back country routes for more casual exploration. One of the most popular desert OHV sites is Drop 31 located north of the Salton Sea.

BLM lands available for OHV use are designated as either “limited” or “open.” In “limited” areas, vehicles are required, at a minimum, to remain on existing routes of travel; cross-country travel is prohibited. In “open” areas, vehicle travel is permitted anywhere if the vehicle is operated responsibly in accordance with regulations and subject to permission of private land owners if applicable. OHV and other vehicle use is prohibited in all wilderness areas, except to accommodate specific authorized activities as provided for by law.

There are four locations on federally owned public lands in the Coachella Valley which have historically received off-highway vehicle use, some for as long as 40 years. The four areas cover about 3,800 acres and have become informally established by use rather than by design or designation. Descriptions of each of the four areas follow.

(1) A 680-acre area at Windy Point adjacent to Highway 111 is currently under a temporary closure to exclude OHV use from occupied habitat for Coachella Valley fringe-toed lizards and Coachella Valley milkvetch (both are species listed under the Endangered Species Act). About 100 to 150 people used the Windy Point area on busy weekends during the cooler times of the year prior to the temporary closure. Peak weekends have been as high as 300 to 400 visits. An OHV rental business is located on adjoining private lands; these lands have a small acreage suitable for OHV use.

Use in the area has been established for over 40 years. A large portion of the use of this area comes from Orange and Los Angeles Counties. With the temporary closure, use has been substantially reduced, but up to about eight people per week may enter the closed area, passing signs or barriers. Enforcement emphasis on Windy Point continues with 98 federal citations, 4 state law citations, and one written warning issued through May 13, 2002. However, given the population base (millions) in the Los Angeles and Orange County areas in combination with the long history of use, enforcement is not expected to yield full compliance for some time.

(2) A 1,040-acre OHV area consisting of two separate parcels in the Indio Hills generally receives 10 to 20 visits per week, mostly by local residents. The parcels are located adjacent to areas designated as part of the Coachella Valley Fringe-Toed Lizard Preserve, but topography largely confines the use to wash bottoms, ridges and a bowl area which are physically separated from Preserve lands. Much of the existing use occurs on an adjacent private parcels and the public land parcel north of the Edom Hill landfill.

(3) A 640-acre parcel in the Iron Door area receives heavy off-highway vehicle use. Adjacent private land parcels receive similar use. The area receives vehicle recreation by up to 150 people per week, mostly for off-highway vehicle play due to the sandy soils.

(4) A 1,440-acre area at Drop 31 along the Coachella Canal is used as an off-highway vehicle use and camping area, particularly on weekends and holidays when temperatures are relatively cool (October to May). Because the area is adjacent to the Orocopia Mountains Wilderness, there is some risk of vehicle intrusion into wilderness, but compliance along the wilderness boundary has generally been good. The land pattern in the area is checkerboard with intermingled private land ownership. The private lands receive similar recreation use. Use levels of 250 to 500 users are typical on busy holiday weekends. Use levels in the region around the Orocopia and Mecca Hills Wildernesses can reach as high as 2,000 to 3,000 people on busy weekends. Users include people traveling from other parts of southern California with expensive camping and touring equipment, as well as local people who use the area for low cost, family camping and picnicking.

3.5 Motorized-Vehicle Access

Management of motorized vehicles on public lands conforms with prescriptions set forth in the California Desert Conservation Area Plan (CDCA Plan, 1980), as amended. These management prescriptions are described in Appendix D.

Coachella Valley CDCA Plan Amendment Route Inventory Process. An inventory of existing routes on public lands within the Planning Area was initiated in 2001. The inventory process is described below:

- (1) Digital (computer based) U.S. Geological Survey (USGS) 1:24,000 topographic maps (Digital Raster Graphics, or DRGs) were acquired and displayed on a computer monitor.
- (2) A digital map of BLM-managed lands was superimposed on the USGS maps.
- (3) All routes depicted on the USGS maps that occur on BLM-managed lands were digitized ("traced"). This created a digital "coverage" or "data layer" of the route network.
- (4) The route network coverage was superimposed on digital imagery/aerial photographs (Digital Orthophoto Quarter Quads, or DOQQs). The aerial photographs that comprise the digital imagery were taken in 1996 and provide more recent information than depicted on the USGS maps.
- (5) Routes appearing in the digital imagery that were not depicted on the USGS maps were digitized as additions to the digital route network coverage.
- (6) The complete digital route network was printed on 1:24,000 USGS topographic.
- (7) To determine the accuracy and completeness of the digital route network coverage, the following steps were undertaken:
 - a) all routes depicted in the digital route network coverage were driven;
 - b) locations of routes on BLM-managed lands that were not depicted on the digital route network coverage were recorded;
 - c) routes depicted on the digital route network coverage that no longer exist were identified; and
 - d) routes were added to the digital route network coverage to reflect observations made in the field, and routes no longer in existence were identified "as non-routes."
- (8) USGS topographic maps depicting the revised digital route network coverage were printed.
- (9) The public was afforded an opportunity to comment on the accuracy and completeness of the route inventory for BLM-managed lands. Map sets and comment sheets were made available at the Palm Springs and Palm Desert Public Libraries, and BLM offices in Palm Springs and Riverside. In addition, map sets were furnished to selected groups for review.
- (10) Based on public comments and subsequent on-site inspection, the digital route network coverage was adjusted accordingly.

Throughout the public comment period for the Draft Plan Amendments and EIS, comments will be accepted regarding accuracy and completeness of the route network.

Route Designation Revisions. Decisions affecting vehicle access, such as area designations and specific route limitations, are intended to meet present access needs and protect sensitive resources. Future access needs or protection requirements may necessitate changes in these designations or limitations, or the construction of new routes. For mining operations, additional access needs will be considered in accordance with regulations pertaining to surface management of public lands under the U.S. Mining Laws (43 CFR 3809). Access needs for other uses, such as roads to private lands, grazing developments, or communication sites, would be reviewed on an individual basis under the authority outlined in Title V of FLPMA and in accordance with appropriate regulations. Each proposal would be evaluated for environmental effects and subjected to public review and comment. As present access needs become obsolete or as considerable adverse impacts are identified through the monitoring program, area designations or route limitations may be revised. In all instances, new routes for permanent or temporary use would be selected to minimize resource damage and use conflicts consistent with the criteria at 43 CFR §8342.1.

Motorized-Vehicle Route Designations. The mileage of vehicle routes crossing public lands within the planning area, excluding the NECO overlap area, is not large, totaling only 137 miles. (Route designations for the NECO overlap area are deferred to that CDCA plan amendment process.) The route network includes portions of major maintained dirt roads (e.g., Long Canyon Road, Dos Palmas access road), utility right-of-way routes (e.g., powerline roads), and routes established by continued recreation use. The route network on the floor of the Coachella Valley is currently affected by the non-attainment status of the Coachella Valley under the Clean Air Act, in part due to dust emissions from unpaved routes and off-highway vehicle use.

Parts of the route network are already closed to public vehicle access to protect existing communications facilities, energy generation facilities, water percolation facilities, biological values in wildlife preserves, or wilderness values in wilderness areas. The route network also includes features such as short spur routes, hill-climbs, and redundant (or multiple) routes leading to the same location. The current status of the route network in the planning area is summarized in Table 3-5. For more detailed information on specific routes or roads in the Coachella Valley, see Appendix D.

Table 3-5: Current Status of Routes on Public Lands

Area	Miles of existing routes available for use	Miles of closed routes (outside wilderness)
Coachella Valley	71 (BLM lands only)	66 (BLM lands only, includes existing closures in Big Morongo Canyon ACEC and Dos Palmas ACEC)
		Routes in wilderness are closed to casual use by statute. Mileage of routes is undetermined.
NECO overlap (designations deferred to the NECO CDCA plan amendment process)	390 (BLM and private lands)	0 (pre-NECO decision)
		Routes in wilderness are closed to casual use by statute. Mileage of routes is undetermined.

Access on many of the public land roads is related to private land use decisions due to intermingled ownerships. Most routes in the Coachella Valley cross multiple ownerships. For this reason, many route locations and uses have developed over time in coordination with local jurisdictions as land uses were approved. Because the route network involves limited mileage and is related to established uses, including public utilities, the range of options to substantially alter the route network is limited.

Dunn Road in the Santa Rosa Mountains was established by trespass in 1966. The status of the road was settled in 1975 in U.S. District Court by placing specific requirements on American Land Company (defendant) to limit and control access to the road. The road has been

controlled by a locked gate since that time. In 1997, BLM acquired the parcel in Cathedral City Cove, which includes the northern gate controlling access to Dunn Road. In August of 2000, BLM completed a temporary closure on Dunn Road maintaining the controlled access provided by the locked gate pending a decision in this plan amendment. Dunn Road also crosses private land and landowners have at times denied access across their land to permitted public land users. Vehicle use of public land portions of Dunn Road is also related to use of tributary routes such as the Dry Wash route, an access route from Royal Carrizo, and short spur routes along the road.

The Dunn Road has been used for multiple purposes. It serves as an important fire control access for BLM, U.S. Forest Service, California Department of Forestry, and City of Palm Springs. Law enforcement and land use compliance assessments are by BLM, U.S. Forest Service, Riverside County, and City of Palm Springs. Search and rescue use is by Agua Caliente Band of Cahuilla Indians, BLM, U.S. Forest Service, and Riverside County. Administrative use for land management projects such as tamarisk control, cultural survey or monitoring is by Agua Caliente Band of Cahuilla Indians, BLM, U.S. Forest Service, California Department of Fish and Game, and private landowners. Although these administrative uses are very important, they result in fairly low vehicle use levels, historically averaging less than five visits per month except when a project or fire is ongoing.

Recreation use has accounted for most of the historic use of Dunn Road. Commercial jeep touring was a permitted use, allowing a public access option to the area for those who did not hike, ride horses, or ride mountain bikes. Jeep tours were a permitted use from 1989 to June of 2001 when lawsuit requirements and denial of access by a private landowner eliminated the use. Between September 1995 and June 1999, the permittee conducted tours for more than 42,000 customers. Most tours occurred from January to June (69%)—no tours were conducted in July and August—with the remaining tours from September to December (31%).

Currently, two right of way applications are in process for the Dunn Road. Both are from public agencies for the purposes of obtaining legal access to support flood control and administrative uses of the road.

3.6 Flooding and Hydrology

Precipitation and Flooding Potential. The San Bernardino, San Jacinto, and Santa Rosa Mountains effectively isolate the Coachella Valley from moist, cool maritime air masses coming on shore from the west. As a result, the region is characterized by a subtropical desert climate with hot, dry summers and mild winters. Mean annual rainfall is very low on the valley floor, typically ranging from four to six inches per year. In some years, no measurable rainfall has been reported. Typically, there is little or no streamflow in regional drainages, as climatic and drainage conditions are not conducive to continuous runoff. However, runoff and occasional flooding do occur during and immediately following rainstorms, and rainfall on surrounding mountains generally increases with elevation.

Precipitation generally occurs during winter months, from November through March. However, high-intensity thunderstorms can also occur from mid-summer through early fall. Such storms are capable of generating substantial quantities of rainfall in short periods of time, thereby increasing the risk for flash floods. Flash flooding is generally limited to washes extending from canyons, floodways and floodplains adjacent to rivers and streambeds, and low-lying drainages. However, flooding on alluvial fans can be particularly damaging because floodwaters move at high velocities and spread across wide, unchannelized areas.

Flooding can also result when unusually warm temperatures in early spring cause the snow pack on surrounding mountains to melt quickly. In fact, most surface water in the Coachella Valley is derived from snowmelt off the slopes of the San Bernardino, Little San Bernardino, and San Jacinto Mountains. The water is usually absorbed by porous sands and gravels on the valley floor. However, if surface sediments are already saturated, additional runoff can remain on the surface and result in minor to major flooding.

Historic weather reports indicate that major storm events have occurred in the Coachella Valley. Benchmark storms recorded by the Army Corps of Engineers include the storm of September 24, 1939, which was centered over Indio and generated 6.45 inches of rain in a 6-hour period. Tropical storm Kathleen, which occurred on September 9–11, 1976, generated heavy rainfall in Riverside, San Bernardino, and Imperial Counties. The mountains and hillsides of the Coachella Valley received as much as 14 inches of rainfall, which drained onto the valley floor and caused extensive flooding and property damage.

Whitewater River Basin. The fluvial system of the Coachella Valley consists largely of ephemeral stream channels or washes, which originate in the surrounding mountains and drain into large alluvial fans that spread onto the valley floor. Most runoff is generated within the San Bernardino, Little San Bernardino, and San Jacinto Mountains west and north of the valley.

The Whitewater River is the primary drainage facility for the Coachella Valley. It emanates from the San Bernardino Mountains at the northwesterly edge of the planning area, flows southeast to La Quinta, northeast to Indio, and drains into the Salton Sea. It extends a total of 70 miles and drains an area containing roughly 400 square miles of valley land and 1,550 square miles of mountains ranges, including the San Bernardino, Little San Bernardino, San Jacinto, and Santa Rosa Mountains.⁸ Its tributaries are numerous and include the following: San Gorgonio River, Palm Canyon Creek, Deep Canyon Creek, Palm Valley Channel, Thousand Palms Canyon, West Wide Canyon, East Wide Canyon, Deception Canyon, Edom Hill Creek, Pushwalla Canyon, Snow Creek, Dead Indian Creek, Magnesia Springs, Cathedral Creek, Andreas Creek, Chino Creek, Tahquitz Creek, Bear Creek, and Mission Creek.

Roughly from Windy Point to Indian Avenue, the Whitewater River channel broadens into a low-lying floodplain that measures more than a mile in width. As it nears Cathedral City, the Whitewater River narrows and becomes a partially improved channel known as the Whitewater River Stormwater Channel, which protects urban development from potential flooding. East of Washington Street in La Quinta, the Whitewater River consists of a man-made channel known as the Coachella Valley Stormwater Channel.

⁸ "Whitewater River Basin Draft Feasibility Report and Environmental Impact Statement," Los Angeles District, Army Corps of Engineers, June 2000.

FEMA Flood Hazard Areas. The Federal Emergency Management Agency (FEMA) is responsible for the analysis and mapping of areas prone to major flooding in the United States. Within the Coachella Valley, the 100-year floodplain generally occurs on and at the base of washes and alluvial fans, such as Mission Creek and the Morongo Wash in Desert Hot Springs, the Magnesia Springs Canyon alluvial fan in Rancho Mirage, and along Little Morongo, Big Morongo, and Smith Canyon Creeks in the Morongo Valley portion of the planning area. It is also contained within man-made channels, such as the Whitewater River/Coachella Valley Stormwater Channel and the La Quinta Evacuation Channel. Areas of 500-year flood inundation typically occur adjacent to the outer edges of the 100-year floodplain. Higher-elevation hills and mountain slopes are subject to only minimal flooding, as are those portions of the central valley floor, which occur at some distance from canyons and washes.

Stormwater Management Responsibilities. Regional stormwater management in the Riverside County portion of the CDCA planning area is the responsibility of the Coachella Valley Water District (CVWD) and the Riverside County Flood Control and Water Conservation District. The Coachella Valley Water District encompasses nearly 640,000 acres, primarily within eastern Riverside County, but also extending into Imperial and San Diego Counties. The Whitewater River/Coachella Valley Stormwater Channel is CVWD's principal stormwater management facility in the Coachella Valley. The Riverside County Flood Control and Water Conservation District has jurisdiction over approximately 2,700 square miles, primarily in western Riverside County, but including the westerly portion of the Coachella Valley and Anza-Borrego portions of the CDCA planning area. It owns and operates 40 dams and several hundred miles of storm drains, channels and levees. Regional stormwater management in the Morongo Valley portion of the CDCA planning area is the responsibility of the San Bernardino County Flood Control District. Individual cities are responsible for smaller-scale, localized stormwater management issues within their boundaries, including the construction of storm drains on urban streets and site-specific detention/retention basins.

Flood Management Improvements. A wide range of regional flood control improvements, including dams, debris basins, and concrete-lined channels, have been constructed throughout the Coachella Valley in an effort to protect life and property from flooding hazards, particularly the 100-year flood. Smaller-scale improvements have been constructed to protect specific neighborhoods and communities from flood flows and to convey mountain runoff to the Whitewater River.

No major flood control facilities have been constructed in the Anza-Borrego or Morongo Valley portions of the CDCA planning area. Although the San Bernardino County Flood Control District's Drainage Master Plan includes preliminary plans for flood control channels along the Big and Little Morongo Creeks in Morongo Valley, the District has no intentions of constructing any improvements in the near term.⁹

Stormwater Runoff Pollution Control. Runoff from developed land has the potential to contaminate and introduce pollutants to surface and ground waters. The federal Clean Water Act of 1972 establishes a strategy to restore and maintain water quality by reducing "point source pollution," including pollutants from industry and sewage treatment facilities. Section 404 of the Act grants the U.S. Army Corps of Engineers with the authority to evaluate and approve development projects that could potentially impact waters of the United States.

In 1987, amendments to the Clean Water Act shifted the focus of polluted runoff and required states to reduce discharges to the waters of the United States. These amendments required the U.S. Environmental Protection Agency to formally regulate polluted runoff utilizing a permit system under the National Pollutant Discharge Elimination System (NPDES). The NPDES program requires communities to apply for municipal permits to eliminate or control "non-point source pollution." In California, the state is responsible for administering the NPDES permitting program. In the Coachella Valley region, this task is the responsibility of the Colorado River Basin Regional Water Quality Control Board.

⁹ Mona Sadek, Flood Control Section, Planning Department, County of San Bernardino, personal communication, March 22, 2002.

3.7 Water Resources/Quality

The environment of the Coachella Valley is a result of a complex interplay between its geophysical and geographic location. The Coachella Valley is part of the Colorado Desert system, and receives less than three inches of rainfall annually. At the same time, the Coachella Valley is resplendent with water, captured by the surrounding mountain ranges. There are various challenges facing the Coachella Valley with regard to water issues, including:

- ▶ availability of water sources for bighorn sheep during summer months and the need for artificial watering holes;
- ▶ extent and timing of noxious weed removal, especially tamarisk, to protect ground water supplies and sheep watering holes;
- ▶ working with federal, state, and local partners to ensure the health and viability of the Whitewater River, which drains into the Salton Sea; and
- ▶ initiating state approved nonpoint source management measures and helping to achieve federal standards for water quality as established by the 1997 Clean Water Action Plan.

The venturi effect caused by the meeting of the San Geronio and San Jacinto mountain ranges, brings strong winds to the Valley. While key to the Valley's blowsand habitat, and as a source of renewable wind energy, these winds also bring air pollution from the Los Angeles Basin. Moreover, the blowsand raises particulate matter concerns.

Hydrologic Units. The planning area is located within the Colorado River Basin Region. The basin is divided into planning regions. The Salton Sea Planning Area, the Anza -Borrego Planning Area, the Hayfield Planning Area and the Coachella Valley Planning Area are all within the Coachella Valley CDCA planning boundary. The planning areas contain subwatershed basins also called hydrologic units. The Salton Sea Planning Area and Hydrologic Units consists entirely of the Salton Sea which is a saline body of water between the Imperial and Coachella Valleys. The climate is arid and the average precipitation is 2.6 inches. The replenishment is from farm drainage and seepage, as well as significant storm events. Dos Palmas preserve is within this area. A small segment of the Anza-Borrego Planning Area and Hydrologic Units resides within the boundary of the plan amendment area under consideration. The Hayfield Planning Area and Hydrologic Units incorporate lands within the eastern portion of the Coachella Valley CDCA planning boundary. The Coachella Valley Planning Area and Hydrologic Units encompasses the Coachella Valley watershed proper.

Uses of water that support terrestrial ecosystems including, but not limited to, the preservation and enhancement of terrestrial habitats, vegetation, wildlife water and food sources are considered beneficial uses of water by the Water Quality Control Plan. This aspect of the plan provides an important connection between state water goals and the Bureau's own goals for supporting plant and wildlife habitat.

Watersheds. According to the most recent EPA's Index of Watershed Indicators (National Watershed Characterization, 1999) the Salton Sea Watershed was rated as a:

- (1) **Watershed with More Serious Water Quality Problems** = Watersheds with aquatic conditions well below State or Tribal water quality goals that have serious problems exposed by other indicators, and
- (2) **Watershed with Lower Vulnerability to Stressors** = Watersheds where data suggest pollutants or other stressors are low, and, therefore there exists a lower potential for future declines in aquatic health. Actions to prevent declines in aquatic conditions in these watersheds are appropriate but at a lower priority than in watersheds with higher vulnerability.

Springs. Springs are located throughout the planning region. Springs are commonly located along the San Andreas Fault Zone which traverses the north-eastern portion of the Coachella Valley. Springs are also common in the Santa Rosa and San Jacinto Mountains area. Springs are vital to wildlife seeking water in the hot summer months.

Surface Water. Surface water is most abundant in rivers coming from the Santa Rosa and San Jacinto Mountains, and the San Bernardino Mountains (such as Whitewater Canyon, Big Morongo Canyon). Surface water also occurs at Dos Palmas along Salt Creek.

Groundwater. Increased urbanization and accompanying recreational water usage in addition to desert agriculture has been reducing the level of the groundwater aquifer.

Perennial and Intermittent Streams. Visible only as dry desert washes for most of the year, "intermittent" streams provide habitat for a number of species. Streams also provide the means for seed dispersal of exotic plants such as tamarisk.

Best Management Practices. According to the Best Management Practices (BMP) outlined by the USDA Forest Service, existing and potential non-point potential water pollution sources will be identified and evaluated to determine the need for and type of treatments necessary to maintain water quality. Lands found to be in need of watershed improvement work will be scheduled for treatment as part of ongoing work/planning/budgeting process.

BMP's are designed to synthesize a number of directives into a process to be followed when addressing water quality of management areas. Each BMP consists of (1) objectives, (2) an explanation with general considerations which are incorporated into the planning process of project design and (3) implementation guidelines. For example, prior to initiation of road construction activities, a BMP concerning the timing of construction would be implemented to minimize erosion and sedimentation. An additional BMP to control traffic during wet periods would further aid in limiting the potential damage to water quality.

3.8 Biological Resources

3.8.1 Native Biological Resources

The desert floor of the Coachella Valley ranges in elevation from more than 150 feet below sea level at the southeast end to nearly 2,000 feet at the northwest end of the valley on the alluvial fans. The mountains surrounding the Coachella Valley range in elevation up to 10,804 feet, with elevations on the southern side of the valley substantially higher than those on the northern side. This range of elevations and accompanying differences in temperature, precipitation and other environmental variables are significant factors contributing to the area's remarkable variety of plant and animal species.

Many canyons in the mountains support riparian areas not typical of a desert environment. Streams and seeps also support many palm oases, especially in the Santa Rosa Mountains. Where the water drains into the sands, desert dry wash woodlands result. The alluvial fans associated with the canyon mouths provide still another major land form and distinctive biological community. Another feature contributing to the biological diversity are the strong winds that funnel through the San Geronio Pass from the west through areas of sand deposition from the San Geronio and Whitewater rivers and create an aeolian dune system. Historically, this dune system occupied much of the center of the valley.

The San Andreas fault zone has created a unique corridor of palm oases stretching along the southern side of the Indio Hills where water is forced to or near the surface by the damming action of the fault. Mesquite hummocks and mesquite bosques are also associated with the fault in some areas. The Salton Sea contributes to biological diversity through the creation of marsh, mudflat, and other wetland habitats. The low elevation of the Salton Sea trough creates an arid, hot environment, which combined with the salinity of the soils, produces an uncommon alkali sink scrub community.

According to Peter Raven, writing in *Terrestrial Vegetation of California*, "California contains the most remarkable assemblage of native plant species in all of temperate and northern North America." One of the two highest centers of endemism in California for "relict species," (i.e. those that have persisted from earlier geologic periods in California) is in the northern and western margin of the Colorado Desert, from the Little San Bernardino Mountains, along the east slope of the San Jacinto and Santa Rosa Mountains, the Borrego Valley area, and southward into Baja California.

For a number of reasons, many of these species have been identified by state and federal agencies as needing additional protection to ensure their continued survival. These special status species include nine federally listed endangered species, all state listed threatened and endangered species, species designated as sensitive by the BLM in California, as candidate species by the USFWS, and as species of special concern by the USFWS and the California Department of Fish and Game (CDFG). A complete listing of the species considered in the CVMSHCP is provided in **Table 3-6**. By including these latter species in the CDCA amendment, the BLM hopes to prevent future listings of species in the Coachella Valley. BLM will use recommendations from available recovery plans, research information and data, and other documents on special status species, to establish management prescriptions and guidelines that will facilitate recovery of these species and prevent additional listings.

Table 3-6: Special status species in the Coachella Valley

COMMON NAME	SCIENTIFIC NAME	STATUS
Arroyo Toad	<i>Bufo microscaphus californicus</i>	FE
Burrowing Owl	<i>Speotyto cunicularia</i>	None
California Black Rail	<i>Laterallus jamaicensis</i>	ST
Casey's June Beetle	<i>Dinacoma caseyi</i>	None
Coachella Valley Giant Sand Treader Cricket	<i>Macrobaenetes valgum</i>	None
Coachella Valley Grasshopper	<i>Spaniancris deserticola</i>	None
Coachella Valley Jerusalem Cricket	<i>Stenopelmatus cahuilensis</i>	None
Coachella Valley Milk Vetch	<i>Astragalus lentiginosus coachellae</i>	FE
Coachella Valley Round-tailed Ground Squirrel	<i>Spermophilus tereticaudus chlorus</i>	SSSC
Crissal Thrasher	<i>Toxostoma crissali</i>	SSSC
Desert Pupfish	<i>Cyprinodon macularius macularius</i>	FE, SE
Desert Slender Salamander	<i>Batrachoseps aridus</i>	FE, SE
Desert Tortoise	<i>Xerobates (or Gopherus) agassizii</i>	FT, ST
Flat-tailed Horned Lizard	<i>Phrynosoma mcallii</i>	SP
Gray Vireo	<i>Vireo vicinior</i>	SSSC
Least Bell's Vireo	<i>Vireo bellii pusillus</i>	FE, SE
Le Conte's Thrasher	<i>Toxostoma lecontei</i>	SSSC
Little San Bernardino Mountains Linanthus (formerly Gilia)	<i>Linanthus maculata</i>	FSSC, FC
Mecca Aster	<i>Xylorhiza cognata</i>	None
Orocopia Sage	<i>Salvia greatae</i>	SSSC
Palm Springs Pocket Mouse	<i>Perognathus longimembris bangsi</i>	None
Peninsular Ranges Bighorn Sheep	<i>Ovis canadensis nelsoni</i>	FE, ST
Pratt's Blue Butterfly	<i>Euphilotes enoptes cryptorufes</i>	None
Southern Yellow Bat	<i>Lasiurus ega (xanthinus)</i>	SSSC
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	FE, SE
Summer Tanager	<i>Piranga rubra cooperi</i>	SSSC
Triple-ribbed Milk Vetch	<i>Astragalus tricarlinatus</i>	FE
Yellow-breasted Chat	<i>Icteria virens</i>	SSSC
Yellow Warbler	<i>Dendroica petechia brewsteri</i>	SSSC
Yuma Clapper Rail	<i>Rallus longirostris yumanensis</i>	FE, ST

FE = Federal Endangered Species SSSC = State Species of Special Concern
 FT = Federal Threatened Species SE = State Endangered Species
 FC = Federal Candidate Species ST = State Threatened Species

The Peninsular Ranges population of desert bighorn sheep was listed as endangered by the USFWS on March 18, 1998. During the past 26 years, the population has declined dramatically from about 1,100 animals to as few as 300 sheep. This decline has been attributed to a variety of causes, including disease, automobile collisions, mountain lion predation, exotic plant invasion, toxic plant ingestion, competition with cattle, habitat loss, degradation and fragmentation, and recreational disturbance.

In the last four years, the population has stabilized and appears to be increasing. BLM has implemented interim measures to promote recovery of bighorn sheep populations. Through implementation of the CVMSHCP and BLM's CDCA plan amendment, long-term management direction will be established. The Bighorn Sheep Recovery Plan, completed in October 2000, provides recommendations for developing and assessing conservation and management activities in order to achieve recovery of the bighorn. Because the ESA permitting process is tied to the CVMSHCP planning process, BLM's CDCA plan amendment has primary responsibility for addressing protection and recovery of Peninsular Ranges bighorn sheep.

Several of the alternatives (such as the habitat conservation objectives) and much of the analysis conducted for this CDCA Plan Amendment are based in large part on the draft Technical Appendix (July, 2001) prepared for the Coachella Valley Multi-Species Habitat Conservation Plan. The draft Technical Appendix provides detailed information about the

vegetative communities found in the planning area, the various plant and wildlife species which occupy these communities, and natural history information about each of the plant and wildlife species. The draft Technical Appendix, which is incorporated into this document by reference, was prepared by the Coachella Valley Mountains Conservancy with input from the Scientific Advisory Committee, USFWS, CDFG, BLM, and citations from numerous scientific papers and documents addressing sensitive species.

3.8.2 Exotic (Non-native) Weeds and Pests

Noxious weeds are a serious problem in the western United States. Estimates of the rapid spread of weeds in the west include 2,300 acres per day on BLM-administered lands and 4,600 on all western public lands. For example, many weed species like perennial pepperweed (tall whitetop), purple loosestrife, yellow starthistle, hoary cress (short whitetop), leafy spruce, spotted knapweed, diffuse knapweed, and many others are non-native to California and the United States and have no natural enemies to keep their populations in balance. As a result, these undesirable weeds rapidly invade healthy ecosystems, displace native vegetation, reduce species diversity, degrade wildlife habitat and special areas such as wilderness, wilderness study areas, areas of critical environmental concern, National Conservation Areas, and National Monuments. Noxious weed invasions reduce rehabilitation and landscape restoration successes, reduce domestic and wildlife grazing capacity, increase soil erosion and stream sedimentation, and threaten federally protected plants and animals.

Exotic pests, such as brown-headed cowbirds, non-native ants, African frogs, tilapia, bullfrogs, and crayfish, all contribute to the decline of native wildlife species. These species tend to out-compete the native fauna for scarce resources and are often aggressive predators of the native wildlife species. Domesticated animals, such as cats and dogs, can be very destructive to the native fauna. Studies have shown that natural areas along urban interfaces where cats and dogs are allowed to run wild, result in wildlife sinks (high mortality areas for native wildlife).

3.9 Cultural Resources and Native American Concerns

3.9.1 Ethnographic and Historic Overview

The geographic area addressed by this CDCA Plan Amendment was inhabited by the Cahuilla prior to the founding of the Spanish missions along the coast in 1769. During the subsequent century, the Cahuilla became increasingly familiar with Spanish, Mexican, and Euro-American cultures, while maintaining the integrity of their own culture. In 1877, reservations were established in Southern California, and access to lands off-reservation became increasingly difficult to the Cahuilla; nevertheless, the religious and cultural importance of landscapes, places, and resources off-reservation was remembered. The CDCA Plan Amendment is being developed with consideration of potential effects of planning actions on religious and cultural values of the Cahuilla, and the neighboring Serrano, and is consistent with the National Historic Preservation Act and implementing regulations at 36 CFR 800.

Cahuilla history has a religious as well as a secular component because the Cahuilla world view does not separate the two. Their homeland is defined by events associated with the first people and with later events which occurred during the settlement of the territory by socio-political subdivisions (clans and lineages). Landscape features (such as mountains, rock formations, and boulders and natural resources (such as springs and certain animals, birds and reptiles) may have religious significance, as may specific places inhabited by clans and lineages which are marked by cultural artifacts and features such as pictographs.

The religion of the Cahuilla addresses the beginning of the universe, life forces, and all creatures. Some of the earliest beings are embodied in rock formations, boulders, and other aspects of nature. Other natural features commemorate specific events involving earliest beings. Another aspect of Cahuilla religion is that some of the earliest created beings exist in transformed states in nature and these transformed states are associated with springs, mountain sheep, deer, bears, mountain lions, eagles, desert tortoise, and other elements of the environment. Other natural features and locations may be notable because they were integral to song cycles which are an important aspect of Cahuilla history and culture. Such natural resources, including their treatment and management, are important to the Cahuilla.

As each lineage territory was established, the founding religious leader named landscape features which bounded and comprised the territory. Each lineage recognized a tract of land with a range of biotic resources which provided food, medicine, and other raw materials, and all resources within the tract were used to a greater or lesser degree. Within each tract, a village settlement was located near a dependable source of water and within reasonable range for procuring staple foods. Village sites with their religious features and human burials, including grave sites, of historically important Cahuilla, and historic-religious context area important places. Places of transitory residence were located at some distance from the village. Included among these sites are caves which were used for residential and religious purposes. Trails connecting residential sites, special use sites, and resources are also of importance.

Residential villages of the Cahuilla who lived in areas west and north of the desert have been recorded in many publications. Strong (1929) published a list of Cahuilla clans and their locations, which included: Indian Wells, Andreas Canyon, Palm Springs, Whitewater Bridge, Blaisdell Canyon, Snow Creek Canyon, Stubby Canyon, Banning Water Canyon, San Timeteo Canyon. He also listed several lineages and as many as twenty villages in Coyote Canyon, at Santa Rosa, and at the bases of Cahuilla and Thomas Mountains. James (1960:46-47) listed some Cahuilla villages at: the entrance to Stubbe, Whitewater, Snow Creek, Blaisdell, Andreas, Chino, Tahquitz, and Deep Canyons; at Palm Springs Station; around the hot springs in Palm Springs, Toro and Santa Rosa Peaks; New Santa Rosa; a half mile east of Horse Canyon; and, in the 1870's, around the warm springs five miles west of Anza. Bean (1991) described places in the San Jacinto and Santa Rosa mountain regions, such as, San Gorgonio Pass and Whitewater Canyon; the Palm Springs area; Palm, Andreas, Murray, Martinez, and Toro Canyons; and the Santa Rosa and Rockhouse Canyon areas.

The north western portion of the plan area falls within the traditional lands of the Serrano. The Serrano apparently inhabited the San Bernardino Mountains and areas to the north. Specifically they may have inhabited the Big and Little Morongo Canyon and Mission Creek areas (Bean and Smith 1978; Daly, Davis, and Lerch 1981; Kroeber 1925). Bean and Smith (1978:570) state that it is "nearly impossible to assign definitive boundaries for Serrano territory due both to Serrano sociopolitical organizational features and to a lack of reliable data."

The term "Serrano" derives from the Spanish for "mountaineers" (Bean and Smith 1978; Kroeber 1925). The Serrano speak a dialect of the Takic sub-family of the Uto-Aztekan language group. This dialect is distinct from that of their Cahuilla neighbors, but Serrano technology, subsistence practices and sociopolitical organization were very similar to that of the Cahuilla. The Serrano in the plan area were divided into two moieties: the Wildcats and the Coyotes. The moieties were further divided into clans and lineages. During the historic period, Cahuilla and Serrano groups were allied by trade and intermarriage. Many Serrano currently reside on the Morongo Reservation with the Cahuilla.

The Mission Creek and Morongo areas appear to have been shared by the Cahuilla and Serrano. Bean, Vane, and Young (1991) report that a Cahuilla lineage occupied Mission Creek. Other sources (Daly, Davis, and Lerch 1981) document that a Serrano clan occupied the village of Yamisevul in Mission Creek.

The Mission Creek Reservation was established in 1876. It was later returned to public domain due to a lack of Indian inhabitants. The reservation was reestablished and expanded in 1908, divided into allotments during 1925 through 1927, and disbanded in 1969. The former reservation is currently privately owned while surrounding lands are under management of the BLM.

The Mission Creek area was relatively free of White intrusion until the mid nineteenth century. The opening of the Bradshaw Road and the Colorado Stage and Express Line in 1862 led to an increase in Euroamerican travel through San Geronimo Pass and the plan area in general. The Bradshaw Trail was developed initially to serve the mining camps at La Paz. Bradshaw developed the portion of the trail which runs through the plan area with assistance from members of Cahuilla chief Cabezon's village. The route runs south of the Orrocopia mountains and north of Dos Palmas and is also referred to as the Cocomaricopa or Maricopa-Cahuilla trail (Warren and Roske 1981). Frink's Route was another east to west trail established prior to Bradshaw's trail and portions of it were followed by Bradshaw. Stage and wagon stops were typically located near springs or other water sources. The Southern Pacific Rail Road was constructed in 1875 and 1876. Increased travel through the Coachella Valley led to an increase in the rate of culture change and cultural disruption among the Cahuilla and Serrano.

Mining played a small role in the history of the Coachella Valley. Historic mines located on lands currently managed by the BLM include clay, fluorospar, gold, and talc mines. The most common mining activity in the plan area at this time is for sand and gravel. The Colorado River Aqueduct was constructed through the plan area during the 1930's. Historic sites associated with workers' residential camps are located in the foothills of the Little San Bernardino Mountains. Activities associated with Patton's Desert Training Center also occurred on BLM managed lands within the Coachella Valley. The Desert Training Center was opened in 1942 with its Division Headquarters at Camp Young near Chiriaco Summit. Maneuvers were conducted on both sides of what is now Interstate 10 and in the lands south of the Orocoopia Mountains.

3.9.2 Section 106 Compliance

Section 106 of the National Historic Preservation Act (NHPA) of 1966 directed federal agencies to take into account the effects of their undertakings on historic properties- those archaeological and historic sites already listed on the National Register of Historic Places. Executive Order 11593 (1979) instructed federal agencies to identify properties, determine if they were eligible for the National Register, and evaluate the potential effects from proposed undertakings. As a result of EO 11593, eligible properties were to be treated with the same respect as sites already listed on the National Register.

Following implementation of the NHPA and EO 11593, federal agencies required that cultural resources inventories be conducted in advance of the approval of undertakings. The majority of large-area cultural resources inventories on BLM managed lands in the Coachella Valley occurred in the late 1970's and early 1980's. This period also corresponds with the development of wind energy and the construction of major powerlines through the valley. Since the late 1980's nearly all inventories have been conducted for compliance with Section 106 of the NHPA and are primarily associated with development or land exchange proposals.

Cultural resources surveys from the late 1970's through the present all appear to meet current standards. Transect width varies from 10 meters to 45 meters. One survey project included some "windshield survey" but this approach was used only in areas with a low potential for historic properties. Many surveys conducted in the Coachella Valley have assumed that active floodplains would present little potential for intact or significant cultural resources and have therefore excluded these areas or have used wider transects to cover them. The topography of the Coachella Valley also includes extremely steep slopes. Steep areas have typically been excluded from inventory. The only apparent weakness of early surveys was the quality of site records that were prepared. The majority of site forms were completed during or before the 1970's and consist of a single page with minimal information and may not include sketch maps or accurate location maps. There is a need to revisit and update site forms for archaeological sites in the Coachella Valley. Many of the sites may have been destroyed by the development that prompted their recordation. Wilke (1976) completed an overview of the human ecology of Ancient Lake Cahuilla and the Coachella Valley and feels that many of the sites he studied in the 1970's have been destroyed as a result of development (Wilke 2002).

Section 110 of the National Historic Preservation Act calls for federal agencies to identify and preserve historic properties under their jurisdiction. Cultural resources inventories which are not driven by proposed projects or undertakings are typically referred to as "110 surveys". Very little of this type of inventory has occurred on BLM managed lands in the Coachella Valley. A systematic sample survey was conducted in conjunction with the California Desert Conservation Act planning effort in the late 1970's. Eighteen of these sample units, a total of approximately 1600 acres of survey, fell on lands which are still managed by the BLM. Since that time it appears that less than 100 acres of non-project related survey has been conducted in the CDCA plan amendment study area.

A total of approximately 23,200 acres of cultural resources inventories have been conducted on BLM managed lands in the Coachella Valley plan area. This represents approximately 7% of the total acreage of BLM lands. Approximately 116 archaeological sites have been recorded. The majority of these are prehistoric sites containing artifacts and features such as lithics,

ceramics, bone, beads, bedrock mortars, hearths, rock walls or alignments, agave roasting pits, and cairns. Historic sites include can and bottle concentrations and structure foundations. In addition there are 12 sites recorded as trails. These sites are generally interpreted as prehistoric in origin since prehistoric artifacts are commonly found along them.

Table 3-7: Cultural Sites Located on BLM-Managed Lands

	Prehistoric Sites	Historic Sites	Trails	Incomplete Site Record
Sites Located on BLM Managed Lands	91	3	12	22

Examination of site location and elevation data indicates that the majority of recorded sites on BLM managed lands in the plan area occur in the Lower Sonoran life zone. This would be consistent with ethnographic data that places Cahuilla village sites within this life zone on valley floors or near the mouth of canyons (Bean, Vane and Young, 1991). Recent archaeological survey also indicates an extensive use of the Ancient Lake Cahuilla shoreline (Schaefer, Palette, And Bean 1993). However, it is important to remember that BLM lands tend to occur at lower elevations and recorded sites correlate primarily with the locations of cultural resources inventories.

Table 3-8: Sites Located on BLM-Managed Lands by Life Zone

	Ancient Lake Cahuilla Shoreline + 50 Feet	Lower Sonoran Life zone	Upper Sonoran Life Zone
Number of sites	36	72	8

Historic properties are those cultural resources which are found to be eligible for listing on the National Register of Historic Places (NRHP). The National Register Criteria for Evaluation can be found at 36 CFR 60.4. The quality of significance in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association, and:

- (1) Are associated with events that have made a significant contribution to the broad patterns of our history; or
- (2) Are associated with the lives of persons significant in our past; or
- (3) Embody the distinctive characteristics of a type, period or method of construction, that represent the work of a master, that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (4) Have yielded or may be likely to yield information important in prehistory or history.

Few sites in the plan area have been formally evaluated for their eligibility to be listed on the National Register. One site, Rancho Dos Palmas, was determined to not be eligible. Two districts, Rockhouse and Martinez Canyons, are currently being proposed for NRHP listing. Currently the Martinez Canyon Rockhouse is the only NRHP listed property on BLM-managed lands. One National Register listed site, the Coachella Valley Fish Traps, occurs on lands not managed by the BLM but within a proposed trail corridor.

Existing site forms generally provide too little information to make decisions regarding the potential for a site to contain significant information. It is also difficult to assess the integrity of sites from existing records. Review of site forms on file at the Palm Springs-South Coast Field Office indicate that there are several sites that may have the potential to meet the eligibility

criteria. Several others consist of surface concentrations of a single artifact or feature type and have little potential to contribute significantly to our understanding of the past. These are listed as "Not Eligible" in Table 3-9. Table 3-9 reflects the contents of the existing database.

Table 3-9: Eligibility Status of Recorded Sites

	Unevaluated / Insufficient information	Not Eligible	Eligible / Warrant Additional Study	Determined Not Eligible
Recorded sites	65	30	20	1

The Native American Heritage Commission was contacted and a sacred lands file search was conducted for the lands included in the Coachella Valley plan area. Several historic cemeteries and geographic features or areas were reported to be of particular significance to local Native American groups. The geographic features are important for their relationship to important events in oral history and ceremony. Some locations are identified as traditional plant gathering areas. As specified in the CDCA Plan (1980, as amended) "data on Native American socio-cultural values will be treated as 'sensitive'..." and the specific results of the sacred lands file search will not be discussed in this document. Areas identified as sensitive, whether as a result of the files search or through Native American consultation, will be given consideration in the planning process.

3.10 Air Quality

3.10.1 Background

Under the Clean Air Act as Amended (1990), National Ambient Air Quality Standards have been developed by the EPA. These standards are used to classify areas as to whether they are in attainment, in non-attainment, or are unclassified for any of the air quality standards. Areas that are classified as non-attainment areas are required to prepare and implement a State Implementation Plan that identifies and quantifies sources of emissions and provides a strategy to reduce emissions. Under the Clean Air Act conformity rules (CAA 176(c) and 40 CFR part 51 subpart W), activities on BLM-managed lands in a non-attainment area must conform to the applicable State Implementation Plan.

The air quality of a particular locale is based on the amount of pollutants emitted and dispersed, and climatic conditions that may reduce or enhance the formation of pollutants. In the Coachella Valley, the South Coast Air Quality Management District (SCAQMD), is the responsible agency for monitoring air quality, and developing and enforcing regulations intended to achieve State and Federal air quality standards. California has also set statewide emission limitations for odor or unhealthful emissions, visible emissions, open burning, sandblasting, gasoline vapors, and incineration of toxics.

Suspended particulate matter is the most serious air quality issue faced by the region, which occasionally exceeds both state ($>50\mu\text{g}/\text{m}^3$ or 50 micrograms per cubic meter) and federal ($>150\mu\text{g}/\text{m}^3$) standards for PM₁₀. PM₁₀ refers to small suspended particulate matter, 10 microns or less in diameter, which can enter the lungs. These small particles can be directly emitted into the atmosphere as a by-product of fuel combustion; through abrasion, such as wear on tires or brake linings; or through wind erosion of soil. Mining operations, OHV use, and grazing all contribute to PM₁₀ levels. They can also be formed in the atmosphere through chemical reactions. Carcinogens and other toxic compounds can stick to the particle surfaces and enter the lung. PM₁₀ is reduced directly by controls on fugitive dust and indirectly by controls on all other pollutants which contribute to the formation of particles.

Another measurement of air quality is the level of ozone, which is formed by photochemical reactions between oxides of nitrogen and volatile organic compounds (VOC). VOCs are formed from the incomplete combustion of fuels and from evaporation of organic solvents. Elevated ozone levels in the air we breathe (as opposed to the upper atmosphere where it protects us from harmful radiation) result in reduced lung function, particularly during vigorous physical activity. Reducing ozone levels involves controlling both NO_x and VOC emissions. NO_x controls were described above. Typical VOC controls include reducing the VOC content of paints and solvents, and controlling fumes from gasoline pumping, auto body painting, furniture finishing, and other operations that involve organic chemicals and solvents.

3.10.2 Coachella Valley Portion of the CDCA Planning Area

The Coachella Valley is located within the Salton Sea Air Basin (SSAB), a geographic area regulated by SCAQMD. The Salton Sea Air Basin is generally bounded on the west by the San Jacinto Mountains, and on the east by the eastern edge of the Coachella Valley. The SCAQMD is under a legal obligation to make and enforce air pollution regulations. These regulations are primarily meant to ensure that the surrounding (or ambient) air will meet National Ambient Air Quality Standards and state air quality standards for concentration and duration for which air pollutants may negatively affect health. SCAQMD also has broad authority to regulate toxic and hazardous air emissions, and these regulations are enforced in the same manner as those which pertain to the ambient air quality standards. In addition, SCAQMD must meet California standards for hydrogen, sulfide, sulfates, and vinyl chloride, as well as state standards for visibility.

SCAQMD currently monitors ambient air quality, including PM₁₀ concentrations, at two air monitoring stations in the Coachella Valley (Palm Springs and Indio). These ambient air standards are health-based and concern the following five air contaminants: ozone, nitrogen

dioxide, carbon monoxide, and fine particulate matter (PM10 and PM2.5). These standards are designed to protect the most sensitive persons from illness or discomfort with a margin of safety. The Indio site has been operational since 1985, and the Palm Springs site has been operational since 1987. The particulate sampling frequency at both monitoring stations is once every three days.

Based on monitoring reported in the 1996 Coachella Valley State Implementation Plan, approximately 53 tons of PM10 were released into the atmosphere in Coachella Valley on an average day in 1995. Of these, one percent was caused by fuel combustion, waste burning and industrial processes. Man-made and natural dust-causing activities, such as agricultural tilling in fields, construction and demolition operations, or driving on paved or unpaved roads account for 96%. Less than three percent of Coachella Valley's emissions are caused by mobile source tailpipe and brake/tire wear emissions.

Expansion of mining area and other potential dust-generating activities on BLM lands have the potential to generate emissions of various types. Within the Coachella Valley there is a natural sand migration process which has direct and indirect effects on air quality. Each year, winter rains cause erosion of adjacent mountains, and water run-off into the northern part of the Coachella Valley produces huge deposits of newly-created sand in that area. During the spring months, persistent, strong winds carry the sand methodically down the valley. Called "blowsand", this natural sand migration process produces PM10 in two ways: (1) by direct particle erosion and fragmentation (natural PM10); and (2) by secondary effects, such as sand deposits on road surfaces which can be ground into PM10 by moving vehicles, and resuspended in the air by those vehicles (man-made PM10).

In the spring and early summer months, meteorological conditions favor the development of strong winds. Seasonally, as the deserts begin to heat up, surface pressures are systematically lower. This creates a "vacuum-like" effect, whereby cooler, ocean-modified air is pulled toward the deserts. As the air is channeled through Banning Pass, which separates the Coachella Valley from the South Coast Air Basin, it accelerates, creating winds which frequently exceed 40 miles per hour (mph). On occasion, winds exceed 60 mph and widespread natural dust storms develop. Desert visibility, which typically exceed 35 miles, can be reduced to less than a mile by the blowsand. On other occasions, summer thunderstorms generate strong gusts and produce large-scale dust storms. Under both of these meteorological conditions, the natural large-scale effects over the desert overwhelm local man-made dust-producing conditions. Such events, which occur approximately 10 to 15 days per year, are considered "natural events" by EPA, and are excluded from violation status determinations.

3.10.3 Current Regulatory Status in Coachella Valley

In November 1990, amendments to the federal Clean Air Act were signed into law, setting into motion new statutory requirements for attaining federal National Ambient Air Quality Standards for PM10. All areas in the United States that were previously designated as federal non-attainment areas for PM10, including the Coachella Valley, were initially designated as "moderate" PM10 non-attainment areas. Under Section 189(a) of the Clean Air Act, revisions to the State Implementation Plans for PM10 were due by November 15, 1991, incorporating "reasonably available control measures" for PM10 and indicating an attainment date. In response to these requirements, the South Coast Air Quality Management District adopted the "State Implementation Plan for PM10 in the Coachella Valley" (1990 CVSIP) in November 1990. The 1990 CVSIP identified candidate control measures and demonstrated attainment of the NAAQS for PM10 by the year 1995, one year after the statutory limit for moderate non-attainment areas. The Clean Air Act, Section 188(b) specifies that any area that cannot attain the standards by December 1994 would subsequently be re-designated as a "serious" non-attainment area.

In January 1993, the U.S. Environmental Protection Agency completed its initial re-designation process, and included the Coachella Valley among five nationwide areas re-designated as "serious" effective February 8, 1993. Section 189(b) of the Clean Air Act further specifies that a State Implementation Plan revision is due within 18 months of the re-designation (August 8,

1994). The revision must assure that "best available control measures" will be implemented and a demonstration of attainment will be submitted within four years of the re-designation date (February 8, 1997). In response to the Clean Air Act requirements for "serious areas", the South Coast Air Quality Management District prepared a State Implementation Plan revision (1994 CVSIP) that identified candidate "best available control measures" for implementation prior to February 8, 1997.

The Clean Air Act also allows an extension of the attainment date for up to five years provided that: (1) all previous state implementation plan (SIP) commitments have been implemented; (2) a demonstration that attainment by 2001 is not practicable; (3) documentation that all feasible Most Stringent Measures (MSM) are being implemented; and (4) a demonstration that the expected attainment date is the most expeditious date practicable.

Section 107 (d)(3)(E) of the Clean Air Act states that an area can be re-designated to attainment if, among other requirements, the U.S. Environmental Protection Agency (EPA) determines that the National Ambient Air Quality Standards have been attained. The EPA guidance further states that a determination of compliance with the National Ambient Air Quality Standards must be based on three complete, consecutive calendar years of quality-assured air quality monitoring data. In applying U.S. EPA's Natural Events Policy, the 1996 Coachella Valley State Implementation Plan determined that the Coachella Valley had not violated either the 24-hour or annual average PM₁₀ standards during the three calendar years 1993 through 1995. Accordingly, the South Coast Air Quality Management District requested a re-designation of the Coachella Valley to attainment for PM₁₀.

From 1999 through 2001, however, PM₁₀ dust levels rose sufficiently to exceed the annual average PM₁₀ standard of 50 g/m³, and standards for ozone. The Indio monitoring site exceeded the PM₁₀ annual average standard from 1999 to 2001. Palm Springs, on the other hand, is within both standards. Special monitoring at other sites confirmed that PM₁₀ standards are exceeded throughout Coachella Valley. The region continues to be designated a "serious" non-attainment area for PM₁₀. Should the region continue to fall short of federal PM₁₀ standards, the U.S. EPA could impose more stringent regulations or sanctions on local jurisdictions.

In an effort to remedy this situation, the South Coast Air Quality Management District developed "Guidelines for Dust Control Plan Review in the Coachella Valley" (2001) which are intended to provide guidance for activities that are required to prepare a fugitive dust control plan. The 2002 Coachella Valley PM₁₀ State Implementation Plan (2002 CVSIP) has been prepared for the planning area which identifies sources of PM₁₀ and control measures to reduce emissions. There also are a set of rules (400 series) designed to limit area and point source particulate emissions and fugitive dust in the Coachella Valley. In developing an air quality management strategy to meet State and Federal standards on public lands, the BLM took into consideration guidelines, rules and State Implementation Plans prepared by the South Coast Air Quality Management District. A description of the BLM's air quality management strategy, and measures embodied in the 2002 CVSIP are provided in Appendix C.

3.10.4 Morongo Valley Portion of the CDCA Planning Area

The Morongo Valley portion of the CDCA Plan Amendment area, which is located in San Bernardino County, falls under the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD). Like the Coachella Valley, this region is currently designated a "nonattainment area" under state and federal ozone and PM₁₀ ambient air quality standards.¹⁰ These designations include a "severe-17" classification for federal ozone standards under the Clean Air Act, which means the region must come into compliance with federal ozone standards by November 15, 2007 (17 years from the date the federal Clean Air Act was enacted). The region is designated an "attainment area" for all other criteria pollutants, including carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead.

¹⁰ "California Environmental Quality Act and Federal Conformity Guidelines," Mojave Desert Air Quality Management District and Antelope Valley Air Quality Management District, December 1999.

PM₁₀ violations throughout the Mojave Desert Air Basin are primarily attributed to heavy fugitive dust sources in and around urbanized areas and dust generated from large-scale high wind events.¹¹ Major dust sources in urbanized areas include unpaved road travel, off-highway vehicle use, wind erosion of unpaved roads and disturbed soils, and construction and demolition activity. In an effort to bring the region into compliance with federal PM₁₀ standards, the MDAQMD adopted a “Federal Particulate Matter Attainment Plan” in 1995, which sets forth a control strategy plan for the entire District. The strategy is aimed at reducing fugitive dust emissions from unpaved road travel, construction/demolition activities, disturbed areas, and industrial activities. All development in the District must comply with the provisions of this Plan and other applicable MDAQMD emissions requirements.

¹¹ “Mojave Desert Planning Area Federal Particulate Matter (PM₁₀) Attainment Plan,” Mojave Desert Air Quality Management Plan, July 31, 1995.

3.11 Noise

Noise has long been accepted as a byproduct of urbanization, but only recently has it received much social attention as a potential environmental hazard. Excessive and/or sustained noise can contribute to both temporary and permanent physical impairments, such as hearing loss and increased fatigue, as well as stress, annoyance, anxiety, and other psychological reactions in humans.

The most common unit used to measure noise levels is the A-weighted decibel (dBA), which is a measurement of the noise energy emitted from a monitored noise source. The A-weighted frequency scale has been adjusted to correlate noise or sound to the hearing range of the human ear, and ranges from 1.0 dBA at the threshold of hearing, to 140 dBA at the threshold of pain.

The existing noise environment in the planning area varies depending upon location, but ranges from very quiet in remote, wilderness areas to moderate on or adjacent to urban lands. The noise environment in the urban core of the Coachella Valley, which generally extends from Desert Hot Springs and Palm Springs on the west to Indio and Coachella on the east, is consistent with that of a low to medium-density, suburban community.

Motor Vehicle Noise. Noise monitoring and modeling data conducted within the planning area indicate that the primary noise source is motor vehicle traffic on highways and major arterials. The level of noise generated varies with traffic volume, vehicular speed, truck mix, and roadway cross-section and geometric design. Typically, the greater the vehicle speed and truck mix, the greater the level of noise.

Among the roadways producing the highest noise levels in the planning area are Interstate-10 and State Highway 111. These highways pass through or in close proximity to BLM land only in limited locations, including east of Indio and in the San Geronio Pass area. Traffic along State Highways 74 and 62, which pass through BLM land in the Santa Rosa Mountains and the Morongo Valley, respectively, generate moderate noise levels during daytime hours, but these levels are expected to drop considerably at night. Most BLM lands are remote and distant from major highways and arterials. Occasional noise from motor vehicle traffic may be generated on access roads; however, noise levels are extremely limited due to very low traffic volumes and speeds.

Railroad Traffic Noise. Railroad traffic constitutes an occasional, but less intrusive element to the noise environment. The passage of trains results in considerable noise impacts to adjacent lands, although the impacts are periodic and of short duration. Railroad tracks extend along the central axis of the Coachella Valley in a northwest-southeasterly direction. The tracks run parallel with and just south of Interstate-10 through much of the valley, and extend southeast along State Highway 111 from Indio to Imperial County. These facilities carry between 30 and 40 trains per day. Most rail activity is freight traffic operated by Union Pacific Railroad, although Amtrak provides passenger service along the same tracks to Palm Springs and Indio. Union Pacific is planning to add a full second track, parallel to the existing one, between 2001 and 2003, and is anticipating a 50% to 75% increase in regional rail traffic. This increase will further impact the noise environment on adjacent lands.

These tracks cross through BLM land in the western Coachella Valley, in the Garnet/Indian Avenue vicinity north of Palm Springs. Noise measurements conducted in this vicinity for the Palm Springs General Plan (1993) place the 60 dB CNEL contour 1,050 feet from the railroad tracks, the 65 CNEL contour 570 feet from the tracks, and the 70 CNEL contour 310 feet from the tracks.¹²

Aircraft Noise. Overflights associated with the Palm Springs, Bermuda Dunes, and Desert Resorts Regional Airports also generate occasional, but intrusive noise impacts in the planning area. However, neither of these facilities is located on or in close proximity to public BLM lands, and noise associated with airport operations does not adversely affect BLM lands.

¹² "City of Palm Springs General Plan," Smith, Peroni & Fox, adopted March 3, 1993.

Stationary Source Noise. Stationary noise sources in the CDCA planning area include grading and construction activity, power tools, household appliances, high-level radio and/or television usage, and mechanical equipment, such as heating and air conditioning units. Noise from roof-mounted equipment, such as fans and compressors, which emit a constant hum, can penetrate adjacent property and adversely affect the quality of life in residential neighborhoods. Industrial noise generated at loading and transfer areas, outdoor warehousing operations, and unscreened commercial or industrial activities, can also result in objectionable noise levels.

Outlying, remote BLM land, including large-scale open space and wilderness areas, is virtually free from stationary noise intrusion. Such areas include undeveloped land in the Indio Hills, Mecca Hills, and San Jacinto, Santa Rosa, San Bernardino, Little San Bernardino, and Orocopia Mountains. Developed BLM lands and those in close proximity to urban development may be subject to low to moderate noise levels.

Wind Turbine Noise. Wind Energy Conversion Systems (WECS) have been constructed on BLM-administered land in the western Coachella Valley. Wind turbine noise varies based on the turbine model and design specifications, including the age, height, and tower damping features of each turbine. Environmental factors, including intervening terrain, vegetation, wind speed and direction, and distance and elevational offsets between the turbine and the noise receptor, also affect ambient noise levels.

Wind turbines generate two types of noise: mechanical and aerodynamic. Mechanical noise is associated with the basic operating components of the turbine, including gearboxes and wheels. Improvements in technology and engineering have virtually eliminated mechanical noise from modern wind turbines, particularly those manufactured after the early 1980s. Aerodynamic noise is best described as the “swish” sound generated by the rotation of rotor blades; the higher the rotational speed, the louder the sound. Turbine manufacturers have minimized aerodynamic noise in recent years by smoothing blade surfaces, carefully designing blade edges and rotor tips, and assuring blades are not damaged during turbine installation. Vibrations have been reduced on some larger turbines by drilling holes into the chassis frame to ensure that the frame does not vibrate in step with other turbine components.

Riverside County has adopted a WECS ordinance (County Municipal Code Section 17.224.040L) that requires the projected wind turbine noise level at each nearby sensitive receptor (habitable dwelling, hospital, school, library, or nursing home) to be at or below 55 dB(A); this level shall be reduced by 5 dB(A) where it is projected that pure tone noise will be generated. BLM utilizes the same standard for WECS development occurring on BLM lands. BLM requires each turbine developer to prepare a noise study demonstrating that the project will meet this standard. In most cases, the distance between the wind turbines and the nearest sensitive receptors is great enough that operational noise impacts are not considered significant.

Two recent acoustical analyses prepared for proposed WECS projects on BLM lands in the San Geronio Pass area indicate that wind turbine noise in this vicinity does not exceed County/BLM accepted noise levels. One project involved the construction of thirty-two 1.5-megawatt (mw) turbines and three 750-kilowatt (kW) turbines on County and BLM lands immediately west of Whitewater Hill. The study concluded that noise impacts on the nearest sensitive receptors, residences located approximately 1,600 feet from the proposed turbines, would be well below the 55 dB(A) standard (Hersh Walker Acoustics, May 8, 2001).¹³ A second project involved the construction of twenty 1.5-mw and four 660-kw turbines in the same geographic area. The acoustical study demonstrated that noise generated by the turbines would not exceed the County/BLM threshold of 55 dB(A) at the outer perimeter property line or the nearest sensitive receptors (Hersh Walker Acoustics, January 4, 2001).¹⁴

¹³ “Acoustical Analysis Report, Noise Impact Analysis, Commercial WECS Permits 108 and BLM Grants, Section 12, T3S, R3E, Riverside County, CA,” Hersh Walker Acoustics, May 8, 2001.

¹⁴ “Environmental Assessment (EA) #01-35, Right-of-Way Grant CA-9755 San Geronio Farms,” U.S. Department of the Interior, Bureau of Land Management, Palm Springs-South Coast Field Office, October 29, 2001.

3.12 Hazardous Materials and Toxic Wastes

The manufacture, transport, and disposal of hazardous and toxic wastes have become a progressively important issue, especially in desert areas where potential impacts are erroneously considered to be less than in other areas. Regulation of toxic and hazardous materials lies with a variety of federal, state, and local agencies, including the U.S. Environmental Protection Agency, the California Office of Health Planning and Development, and county health departments. Applicable federal regulations include the Resources Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), the Safe Drinking Water Act (SDWA), the Federal Clean Air Act and the Toxic Substances Control Act.

Counties are authorized by state law to prepare Hazardous Waste Management Plans (HWMP) in response to the need for safe management of hazardous materials and waste products. In the CDCA planning area, the California Regional Water Quality Control Board (CRWQCB) and area water districts maintain information concerning contaminated water wells and groundwater. The state and federal Environmental Protection Agencies (EPA) and the State Department of Health also provide information concerning specific hazardous waste sites.

There are no large industrial or commercial users of hazardous materials in the planning area or area of influence, although there are identified hazardous/toxic material small quantity generators associated with commercial, industrial and medical operations. These have the potential to be associated with accidental spills, purposeful illegal dumping, air emissions, and other uncontrolled discharges into the environment. Improper use and management of these materials pose a significant potential threat to the environment.

Products, chemical and purified chemical compounds, and elements that are considered hazardous or toxic exist in wide variety and are used in households, commercial businesses and industrial operations and processes. They range through home and pool related chlorine products, chemical fertilizers, herbicides and pesticides, stored fuels and waste oil, chemical solvents and lubricants, and a variety of medical materials, including biological and radioactive wastes.

Hazardous Waste Management Plans. Jurisdictions responsible for land management coordinate with appropriate county, state and federal agencies in the identification of hazardous material sites, and their timely cleanup. In order to manage these issues, the jurisdiction may establish and maintain information on these sites, and periodically monitor facilities and operations that produce, utilize or store hazardous materials. By staying involved in multi-agency monitoring of illegal dumping in the BLM, conferring in the regulation of underground storage tanks and septic systems, and regulating the transport of hazardous materials through the CDCA planning area, the BLM can better protect against potential hazards associated with hazardous materials and wastes.

The BLM coordinates and cooperates with Riverside County in addressing illegal use and/or dumping of hazardous and toxic materials on public lands. The Riverside County HWMP was adopted by the Board of Supervisors and approved by the California Department of Health Services in 1990. The County HWMP identifies the types and amounts of wastes generated in the County and established programs for managing these wastes. The Riverside County HWMP also assures that adequate treatment and disposal capacity is available to manage hazardous wastes generated within its jurisdiction, and addresses issues related to manufacture and use.

The state and federal Environmental Protection Agencies (EPA) and the State Department of Health also supply information concerning specific hazardous waste sites and their locations. The California Department of Industrial Relations, Cal-OSHA Division, regulates the proper use of hazardous materials in industrial settings. Private database screening and documentation services are also available, which will search, extract, and summarize reports on contaminated site recorded in various state and federal databases.

Household Hazardous Waste. Residential use of household chemicals, automobile batteries, used oil, paint and similar materials result in hazardous waste. "ABOP" (Antifreeze, Batteries, Oil and Latex Paint) disposal sites are available for planning area residents to dispose of these materials. These facilities will take up to 5 gallons or 50 pounds of materials per trip, and all materials must be clearly marked and sealed. Local residents may also properly dispose of used motor oil through a variety of local programs, including curbside pick up. Riverside County also organizes Household Hazardous Waste collection days throughout the year at fire stations and city corporation yards across the valley.

Hazardous Materials Response. Hazardous and toxic materials are determined critical by county health departments, which can require owners of storage facilities to test, temporarily close and/or remove all hazardous liquids, solids or sludge located on the site. Leaking underground storage tanks must be removed by contractors having Hazardous Waste Certification and a General Engineering license. Between cessation of storage and actual closure, monitoring is generally required by the site's operating permit. When soils contamination is detected, the clean up procedure to be followed, the degree or level of cleanliness required by the regulator, and the method of treatment (if permitted) will be directed by the county hazardous materials division and/or the Regional Water Quality Control Board.

3.13 Visual and Scenic Resources

The CDCA planning area is distinguished by its unique arrangement of low-lying desert landscape and high terrain of the San Jacinto, San Bernardino, Little San Bernardino and Santa Rosa Mountains. These contrasting viewsheds result in an exceptional display of open space and mountain scenery that enhance the aesthetic quality of the area. The mountainous portions of the planning area are comprised of highly differential rock formations, large expanses of light gray granite, and a diversity of vegetation, including live oak and towering pines. Views of the mountain ranges that ring much of the planning area, in particular, are highly valued.

The two highest peaks associated with the region are San Jacinto Peak in the San Jacinto Mountains, which rises to an elevation of 10,804 feet, and San Gorgonio Peak in the San Bernardino Mountains, with an elevation of 11,502 feet. The rise of Mt. San Jacinto, from the desert floor to the peak, is the steepest gradient in North America. The Santa Rosa Mountains extend through the southwest portion of the planning area. The highest peaks in the Santa Rosa Mountains include Toro Peak at 8,717 and Santa Rosa Peak at about 8,000 feet. To the north and northeast of the subject property are the Indio Hills, with elevations rising to about 1,600 feet.

The lower elevations of the CDCA planning area include numerous alluvial fans and cone, which form at the mouth of the many canyons draining the area mountains. These expansive deposition areas form an important and visually interesting transition between the foothills and mountains, and the valley floor. The alluvial fans also are comprised of washes and braided streams that support important habitat and diverse visual character.

The valley floor is comprised of a mix of sand dunes, sand fields and more limited areas of desert pavement swept clear of sand. Dunes and sand fields are archetypal desert visual resources with high visual resource value. In many areas, they are enhanced by the presence of mesquite hummocks that provide a vivid contrast of green against the light color of expanses of sand. In the spring, the dunes and sand fields are also frequently covered with a profusion of annual plants, including sand verbena and mallow.

In the central portion of the valley, the Indio and Mecca Hills have been uplifted by compressive forces associated with the San Andreas Fault Zone, which passes through the long northwest – southeast axis of the Coachella Valley. Along the fault zone, fault dikes have blocked and impounded the movement of ground water. This has resulted in the emergence of numerous groves of native desert fan palms (*Washingtonia filifera*) and associated mesquite and other vegetation, which also provide a unique and high value visual resource.

The lowest portions of the planning area are also a result of tectonic forces associated with the San Andreas Fault Zone. The Coachella valley is the northwestern extension of a fault-controlled spreading zone, which extends from the Gulf of Mexico. The spreading and subsidence has created a terminal lake, the Salton Sea, which has no outlet and currently stands at a surface elevation of 228± feet below mean sea level.

The Federal Land Policy and Management Act of 1976 (FLPMA) requires BLM to protect the quality of scenic values on public lands (43 USC 1701). BLM has developed an analytical process that identifies, sets, and meets objectives for maintaining scenic values and visual quality. The Visual Resource Management (VRM) system functions in two ways. First, BLM conducts an inventory that evaluates visual resources on all lands under its jurisdiction (Inventory/Evaluation). Once inventoried and analyzed, lands are given relative visual ratings (Management Classifications). Class designations are derived from an analysis of Scenic Quality (rated by landform, vegetation, water, color, influence of adjacent scenery, scarcity, and cultural modification), a determination of Viewer Sensitivity Levels (sensitivity of people to changes in the landscape), and Distance Zones (visual quality of a landscape, as well as user reaction, may be magnified or diminished by the visibility of the landscape). Management Classes describe the different degrees of modification allowed to the basic elements of the landscape (form, line, color, texture).

Second, when a site specific project is proposed, the degree of contrast between the proposed activity and the existing landscape is measured (Contrast Rating). The Contrast Rating process compares the proposed activity with existing conditions element by element (form, line, color, texture) and feature by feature (land/water surface, vegetation, structures). The Contrast Rating is compared to the appropriate Management Class to determine if contrasts are acceptable. If the proposed project exceeds the allowable contrast, a BLM decision is made to (1) redesign, (2) abandon or reject, or (3) proceed, but with mitigation measures stipulated to reduce critical impacts. The VRM Management Class Objectives are defined as follows:

Class 1: Natural ecological changes and very limited management activity are allowed. Any contrast created within the characteristic landscape must not attract attention. This classification is applied to wilderness areas, wild and scenic rivers, and other similar situations.

Class 2: Changes in any of the basic elements caused by management activity should not be evident in the characteristic landscape. Contrasts are visible, but must not attract attention.

Class 3: Changes to the basic elements caused by management activity may be evident, but should remain subordinate to existing landscape.

Class 4: Any contrast may attract attention and be a dominant feature of the landscape in terms of scale, but it should repeat the form, line, color, and texture of the characteristic landscape.

Class 5: This classification is applied to areas where natural character of the landscape has been disturbed to a point where rehabilitation is needed to bring it up to one of the four other classifications.

3.14 Utilities/ Public Services and Facilities

Public services and facilities in the CDCA planning area are provided by a number of public and quasi-public agencies, which ensure a coordinated system of services for residents and businesses. These various services are described below.

Given that most BLM parcels in the planning area are remote and undeveloped, they are not typically connected to public utilities, nor do they receive public services from outside agencies. However, some parcels are traversed by utility rights-of-way used for electric, natural gas, and supplemental water transmissions, as described below.

Domestic Water. Although development in outlying areas of the Coachella Valley relies upon privately owned, on-site wells for the delivery of potable water, most development is connected to a public or quasi-public water delivery system. Domestic water services are provided to the valley by a number of agencies, which extract groundwater from deep wells and convey it to homes and businesses through extensive systems of distribution pipelines. Supplemental Colorado River water is imported to the region via the Metropolitan Water District's Colorado River Aqueduct. This facility traverses the Coachella Valley at or near the base of the Little San Bernardino Mountains and crosses directly through scattered BLM lands, including those in the southern portion of the Big Morongo Canyon ACEC. The aqueduct, which transports water from Parker Dam, is constructed just below the ground surface and includes siphons which allow for the passage of vehicles and stormwater across the surface.

The Coachella Valley Water District (CVWD) is the principal domestic water provider serving the Coachella Valley. Other purveyors include the Mission Springs Water District (MSWD), Desert Water Agency (DWA), Myoma Dunes Mutual Water Company, and the cities of Indio and Coachella, which own and operate their own municipal water delivery systems. San Bernardino County and the Southern California Water Company provide domestic water to the Morongo Valley community. The Anza-Borrego portion of the planning area contains little development, which relies upon on-site wells.

Wastewater Collection and Treatment. Sewage collection and treatment services are provided throughout the Coachella Valley by several agencies, including CVWD, DWA, MSWD, the City of Palm Springs, and the City of Coachella. Although most urbanized areas within the Coachella Valley are connected to coordinated wastewater treatment systems, many homes and businesses continue to rely upon on-site septic systems for the treatment of effluent. Most unsewered sites are located in outlying areas of the valley, such as Sky Valley and remote areas of Desert Hot Springs, where the demand for services is relatively low. However, a substantial number of unsewered sites are located within the central, urbanized portion of the valley, including the Cathedral Canyon Cove neighborhood in Cathedral City and scattered development in Bermuda Dunes. No community sewer systems have been constructed in the Morongo Valley or Anza-Borrego portions of the CDCA planning area; residents rely on on-lot septic systems.

Electric Service. Southern California Edison (SCE) is the primary electric service provider for the western Coachella Valley, while the Imperial Irrigation District (IID) serves the central and eastern portions of the valley. High-voltage (up to 500 kilovolt) transmission lines pass through the Coachella Valley within an east-west trending utility corridor located north of and roughly parallel to Interstate-10. This corridor passes directly through scattered BLM parcels in several locations throughout the valley, including east of Indio, within the San Geronio Pass area, and in the Coachella Valley Preserve in the central valley.

Natural Gas. The Southern California Gas Company provides natural gas services to much of the planning area. Most development in the central, urbanized core of the Coachella Valley is connected to the natural gas distribution system. Rural, outlying areas and some isolated pockets of development are not connected, given the tremendous costs associated with expanding the necessary infrastructure. The natural gas pipeline originates in Texas and crosses the valley through an east-west trending utility corridor just north of Interstate-10. The pipelines include one 30-inch line and two 24-inch lines, with pressures of 2,000 pounds per square inch (psi). This utility corridor passes directly through scattered BLM parcels of land, including several east of Indio, within the San Gorgonio Pass area, and in the vicinity of the Coachella Valley Preserve.

Telephone Service. Verizon (formerly GTE) provides a wide range of residential and business telephone services to the CDCA planning area. The backbone of Verizon's communications network consists of central switching offices, which facilitate the connection of telephone and data transmissions. Numerous central switching offices are located throughout the region.

Cable Television. The Coachella Valley's largest cable television service provider is Time Warner, whose coverage area extends from Palm Springs to Coachella. Desert Hot Springs Cablevision provides services to the City of Desert Hot Springs and a portion of Sky Valley. Kountry Kable provides services to the communities of Mecca and Thermal.

Solid Waste Management. The largest provider of solid waste management services in the Coachella Valley is Waste Management of the Desert, whose coverage area generally extends from Cathedral City to North Shore. Waste Management also serves the Morongo Valley portion of the planning area. The cities of Palm Springs and Desert Hot Springs contract with Palm Springs/Desert Valley Disposal for solid waste management and disposal services. Most cities in the valley have implemented a comprehensive recycling program, which has proven beneficial to the preservation of landfill space, and energy and other finite resources used in materials production. Most green waste collected in the valley is recycled at the BioMass facility in Thermal, while other recyclables are transported to a recycling company in Los Angeles. Several privately operated recycling facilities are located within the Coachella Valley.

Most of the solid waste generated in the Coachella Valley is disposed of at the Edom Hill Landfill, located at the westerly extension of the Indio Hills. However, this facility is nearing its maximum capacity, and its anticipated closure date is 2004. A limited amount of waste collected in the easterly Coachella Valley is disposed of at the Mecca Landfill. The projected closure date for the Mecca Landfill is 2011; however, this date may change depending upon future levels of waste generation and demands for landfill space. Residential and commercial waste collected in the City of Cathedral City is transported by truck to the Copper Mountain Landfill in Wellton, Arizona.

Public Schools. Public education services and facilities in the Coachella Valley are provided by the Palm Springs Unified School District, Desert Sands Unified School District, and Coachella Valley Unified School District. The Morongo Valley Unified School District serves the Morongo Valley portion of the planning area, and the Hemet Unified School District serves the Anza-Borrego portion. Additional educational opportunities are offered at numerous private schools throughout the planning area.

Libraries. The principal provider of library services in the CDCA planning area is the Riverside County Library System, a network of public libraries serving Riverside County residents. The Cities of Palm Springs and Rancho Mirage operate their own municipal libraries, independent of the County Library System. The County of San Bernardino provides public library services to the Morongo Valley portion of the planning area.

Fire Protection. BLM provides its own fire suppression services on BLM-administered lands and contracts with the California Department of Forestry for fire suppression in mountainous areas. The Riverside County Fire Department operates approximately 22 fire stations in the Coachella Valley and provides fire suppression and prevention, emergency medical response, hazardous materials response, fire investigations, and other related services to most

communities in the valley, as well as the Anza-Borrego portion of the planning area. The cities of Palm Springs and Cathedral City operate their own municipal fire departments. Fire protection services in the Morongo Valley portion of the planning area are provided through a Community Services District (CSD), an independent district formed by the County Board of Supervisors and tailored to meet the needs of the local community. However, fires occurring within State Response Areas (SRAs), which include large vegetated areas, are the responsibility of the California Department of Forestry, and fires occurring within the San Bernardino National Forest are the responsibility of the U.S Forest Service.

Police Protection. With the passage of the Federal Land Policy and Management Act of 1976, Congress granted BLM its statutory law enforcement authority. BLM law enforcement rangers provide a wide range of services on BLM lands, including providing security at recreation sites, protecting important cultural sites from vandalism, assisting local authorities with search and rescue operations, and guarding against the dumping of hazardous and other pollutants. For additional support, BLM maintains a mutual aid agreement with the Riverside County Sheriff's Department.

The following Coachella Valley cities contract with the Riverside County Sheriff's Department for police protection services: Rancho Mirage, Palm Desert, Indian Wells, La Quinta, and Coachella. In addition, the Sheriff's Department provides protection to unincorporated County lands throughout the CDCA planning area, including the Anza-Borrego area. The cities of Desert Hot Springs, Palm Springs, Cathedral City, and Indio maintain their own municipal police departments. The San Bernardino County Sheriff's Department serves the Morongo Valley portion of the planning area.

3.15 Socio-Economic Considerations

The CDCA planning area occurs in a region which has positioned itself as one of the premier destination resort areas in the country. Although most BLM lands in the planning area are remote and uninhabited, they offer a broad range of economic opportunities for the local population, including eco-tourism, mineral and energy leases, and utility rights-of-way.

3.15.1 Regional Economy and Demographics

Population. The population of the CDCA planning area has grown rapidly over the past two decades. As described in the table below, the regional population more than doubled during the 1980s, from 91,124 to 194,718. During the 1990s, the population grew to 274,470, which represents a 10-year gain of 79,752 or 41%.

Table 3-10: Population Trends for the CDCA Planning Area, 1980-2000

City/Place	Population		
	1980	1990	2000
Cathedral City	N/A ¹	30085	42647
Coachella	9129	16896	22724
Desert Hot Springs	5941	11668	16582
Indian Wells	1394	2647	3816
Indio	21611	36793	49116
La Quinta	3328	11215	23694
Palm Desert	11081	23252	41155
Palm Springs	32359	40181	42807
Rancho Mirage	6281	9778	13249
Bermuda Dunes	N/A ²	4571	6229
Mecca	N/A ²	1966	5402
Morongo Valley	N/A ²	1544	1929
Thousand Palms	N/A ²	4122	5.12
TOTAL	91124	194718	274470
1 Cathedral City was not incorporated until 1981 2 Data not tabulated in 1980 Source: U.S. Census Bureau, Census 1980, 1990, 2000			

The Coachella Valley population is expected to continue to grow rapidly over the next two decades. The Southern California Association of Governments (SCAG) forecasts that the population will reach approximately 440,301 by year 2010, and 540,901 by year 2020.¹⁵

¹⁵ Southern California Association of Governments, letter correspondence to City of La Quinta, May 23, 2001.

Median Age. In 2000, the median age of residents living in the CDCA planning area ranged from a low of 22.6 in Mecca, to a high of 63.4 in Indian Wells.¹⁶ This wide range of ages is representative of the valley's diverse population, which includes students, young families, middle-aged professionals, retirees and seniors.

Race and Ethnicity. The CDCA planning area is primarily Caucasian, with approximately 68.4% of residents in the region classifying themselves as "white." However, nearly half (44.5%) of the population identifies itself as Hispanic or Latino, of any race. The table below describes the region's racial/ethnic composition, according to the 2000 U.S. Census.

Table 3-11: Ethnicity in the CDCA Planning Area, 2000

Race	Population	
	Total No.	Percent
White	187839	68.4
Black or African American	6480	2.4
American Indian/ Native Alaskan	2339	0.9
Asian	6333	2.3
Native Hawaiian/ Pacific Islander	259	0.09
Some Other Race	61980	22.6
Two or More Races	9240	3.4
TOTAL	274470	100
Hispanic/Latino (of any race)	122226	44.5
1 Difference due to rounding Note: Table includes combined data for nine incorporated cities and four unincorporated communities in the CDCA planning area. Source: U.S. Census Bureau, Census 2000		

Households.¹⁷ In 2000, there were approximately 101,871 households in the CDCA planning area. Average household sizes ranged from a low of 1.92 persons per household in Rancho Mirage, to a high of 5.04 in Mecca. This indicates that the region contains a wide variety of family units, ranging from singles and couples to large, extended families.

Employment and Income. According to the California Employment Development Department, the number of jobs in the Coachella Valley increased from 74,146 in 1991, to 100,231 in 1999. This represents a gain of 26,085 jobs or 35.2% over the eight-year period.¹⁸ The region's largest employment sectors are retail trade, agriculture, and hotel and amusement. Other growing industries include construction, business services, and distribution and transport services.

Median household incomes in the region have risen steadily over the past decade. In 1990, they ranged from a low of \$20,687 in Desert Hot Springs, to a high of \$87,942 in Indian Wells. By 1998, the range increased from \$29,555 in Desert Hot Springs to \$125,642 in Indian Wells. These data suggest a wide variation in residents' economic situations and expendable incomes.

¹⁶ U.S. Census Bureau, Census 2000.

¹⁷ Ibid.

¹⁸ California Employment Development Department data, as provided in "Coachella Valley Economic Review," John E. Husing, Ph.D., July 22, 2000.

Historic Overview of Regional Economy. Agriculture was the Coachella Valley's dominant industry during the first half of the twentieth century. The region's main staple, the date palm, was introduced around the turn of the century by the U.S. Department of Agriculture, and the industry soon expanded to include the cultivation of grapes, citrus, and other fruit and vegetable crops.

As early as the 1920s, however, hotels, restaurants, country clubs, and casinos began to emerge in the upper Coachella Valley, especially in the Palm Springs and Cathedral City areas. Equestrian camps and resort hotels, including the historic La Quinta Hotel, were constructed in the lower valley. By the 1930s, the character of the region had been transformed toward the budding resort industry, with the marketing and construction of weekend homes throughout the valley. A new era of development emerged during the post-World War II era, giving the region its predominant image as a destination resort community.

Over the past three decades, the Coachella Valley has expanded to become one of the premier destination resort areas in the country. Today, it is characterized by high quality hotels, convention facilities, spas, and planned residential golf course developments. Approximately 3 million (overnight) visitors come to the Coachella Valley annually, and tourism has an estimated \$1.5 million annual economic impact on the region.¹⁹

3.15.2 Socio-Economic Issues Specific to BLM Lands

BLM lands within the CDCA planning area provide a variety of direct and indirect economic benefits the general economy. These include the leasing of BLM lands for such economic opportunities and activities as mineral (sand and gravel) extraction, wind energy production, utility corridors, and commercial recreational uses such as ecotourism.

The Bureau leases lands with locally important resource value, which in the planning area is limited to sand and gravel extraction. Sand and gravel have a relatively low unit value and are especially sensitive to extraction, processing and transportation costs. Making sand and gravel resources available to the local economy has significant positive impacts on a wide range of construction costs, including roads and highways, manufacture of concrete and related products, and other construction uses.

BLM lands are also an important part of wind energy development in the CDCA planning area. As discussed elsewhere in this document, wind energy is a clean, economical and renewable energy resource, which reduces air pollutant emissions, creates local jobs and still allows the land to provide wildlife habitat for a variety of sensitive species and communities. These lands also provide important local and regional rights-of-way for the transmission of electricity, water, natural gas and petroleum products, enhancing their availability and positively affecting their price structure.

Commercial ecotourism has also become a progressively more important local economic benefit, enhancing the resort industry in the planning area and providing opportunities for increased employment in "nature" industries.

Occasionally, the Bureau may enter into land exchange agreements that provide opportunities that free up appropriate public lands for expanded private economic development and optimal land use. In exchange, the Bureau and the public typically receive lands that are environmentally or ecologically important.

¹⁹ "Palm Springs Desert Resorts Fact Sheet," Palm Springs Desert Resorts Convention and Visitors Bureau, Spring 2000.

3.16 Environmental Justice and Health Risks to Children

Executive Order 12898. Environmental justice refers to the fair and equitable treatment of all individuals, regardless of race, ethnicity or income level, in the development and implementation of environmental laws and policies. In February 1994, the President of the United States signed Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, which is one of the principal mechanisms used to implement environmental justice concepts at the federal level. Its fundamental objective is to require each federal agency to “make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.”²⁰

The EO was accompanied by a memorandum, which emphasized the importance of the National Environmental Policy Act (NEPA) as a means for implementing environmental justice principles. The memorandum directs federal agencies to analyze the environmental effects, including human health, economic, and social effects, of their actions where such analysis is required by NEPA.

Executive Order 13045. Executive Order (EO) 13045, entitled *Protection of Children From Environmental Health Risks and Safety Risks*, was signed by the President on April 21, 1997. It requires all federal agencies to assure that their policies, programs, activities, and standards address disproportionate health risks to children that result from environmental health or safety risks. The EO defines environmental health and safety risks as those that are attributable to products or substances the child is likely to come into contact with or ingest, such as air, food, water, soil, and products children use or are exposed to.

Implementation of EO 12898 and 13045 BLM will utilize the NEPA process to implement these Executive Orders by describing the population affected by the proposed CDCA Plan amendment (below) and addressing disproportionately high adverse impacts of the proposed action on special populations (Chapter 4).

It is important to recognize that most BLM land in the CDCA planning area is uninhabited. Very few exceptions exist where a caretaker or ranger lives on-site, such as in the case of the Big Morongo Canyon ACEC; however, such incidences are rare and isolated. Nonetheless, BLM lands do not exist in a vacuum. They are located within the broader Coachella Valley, a resort-residential community with a permanent population of approximately 275,000, and are frequently utilized by local residents and visitors alike for recreational and educational purposes. Certain parcels are also accessed by BLM staff and authorized individuals for the routine maintenance of energy/mineral leases or utility rights-of-way. The following discussion describes special populations in the Coachella Valley, as these groups are likely to utilize BLM lands in the CDCA planning area.

Minorities and Minority Populations

As shown in the table below, the majority of residents in the Coachella Valley categorize themselves as “white,” and other races represent a significantly smaller segment of the population. Minority populations are generally well integrated and dispersed geographically throughout the Coachella Valley, and there are few isolated minority neighborhoods or districts in the region.

²⁰ “Environmental Justice: Guidance Under the National Environmental Policy Act,” Council on Environmental Quality, December 10, 1997.

Table 3-12: Racial Composition of the CDCA Planning Area, 2000

	White (%)	Black or African American (%)	American Indian & Alaska Native (%)	Asian (%)	(%) Native Hawaiian & Pacific Islander	Some other race (%)	(%) Two or More Races	Hispanic/Latino (of any race) (%)
Cathedral City	65.3	2.7	1	3.7	0.1	23.1	4.1	50
Coachella	38.8	0.5	0.8	0.3	–	56.6	3	97.4
Desert Hot Springs	68.2	6.1	1.4	2	0.1	16.4	5.8	40.4
Indian Wells	96.3	0.4	0.2	1.5	0.1	0.5	1	3
Indio	48.7	2.8	1	1.5	0.1	42	3.9	75.4
La Quinta	78.5	1.4	0.7	1.9	0.1	13.9	3.5	32
Palm Desert	86.8	1.2	0.5	2.6	0.1	6.5	2.4	17.1
Palm Springs	76.3	3.9	0.9	3.8	0.1	9.8	3.1	23.7
Rancho Mirage	92.7	0.9	0.2	1.2	0.1	3.6	1.3	9.4
Bermuda Dunes	84.2	2.1	0.6	2.7	0.1	6.9	3.4	19.5
Mecca	24.1	0.1	1	0.7	–	70.7	3.4	98
Morongo Valley	91.9	0.8	1.4	0.4	0.1	3.4	2.1	9.3
Thousand Palms	74.8	0.7	0.9	0.7	0.3	19.4	3.2	43.6
Note: – represents zero or rounds to zero.					Source: U.S. Census Bureau, Census 2000			

The percentage of “Black or African Americans” ranges from 0.1% in Mecca to 6.1% in Desert Hot Springs. “American Indian and Alaskan Natives” range from a low of 0.2% in Rancho Mirage and Indian Wells, and a high of 1.4% in Desert Hot Springs and Morongo Valley. The “Asian” population ranges from 0.3% in Coachella to 3.8% in Palm Springs. “Native Hawaiians and Other Pacific Islanders” range from a low of zero (or near zero) percent in Coachella and Mecca, to a high of 0.3% in Thousand Palms. These individuals clearly represent minority populations in the region. The data indicate that they are generally dispersed geographically, but the greatest percentages live in the western portion of the Coachella Valley, including the cities of Palm Springs, Desert Hot Springs, and Cathedral City.

A substantial portion of the population identifies itself as Hispanic or Latino, of any race. Percentages range from a low of 3.0% in Indian Wells to a high of 98.0% in Mecca. The data indicate that substantially higher percentages of Hispanics/Latinos reside in the eastern valley, including the communities of Coachella, Indio, and Mecca.

Low Income Populations

As shown in the following table, the Coachella Valley population is characterized by a diverse range of incomes. Residents include young working families, middle and upper class professionals, retirees on fixed incomes, those receiving public assistance, and seasonal workers employed in the region’s agricultural and resort industries. The data indicate that the greatest percentage of persons living below the poverty level reside in the eastern portion of the Coachella Valley, specifically in the communities of Mecca and Coachella, and to a lesser extent Indio. Relatively high percentages of residents living below the poverty level are also concentrated in the northwesterly portion of the region, in Desert Hot Springs and Morongo Valley.

Table 3-13: Comparison of Income Levels in the CDCA Planning Area, 1990

	Median Household Income	Persons Living Below Poverty Level	
		Total Number	% of Population
Cathedral City	\$30,908	4046	13.6
Coachella	\$23,218	4115	24.5
Desert Hot Springs	\$20,687	2,469	21.5
Indian Wells	\$87,942	100	4
Indio	\$25,976	7652	21.2
La Quinta	\$39,572	730	6.5
Palm Desert	\$37,315	1643	7.1
Palm Springs	\$27,538	4,991	12.6
Rancho Mirage	\$45,064	728	7.6
Bermuda Dunes	\$47,195	123	2.7
Mecca	\$21,829	622	31.7
Morongo Valley	\$38,125	361	23.2
Thousand Palms	\$27,219	333	8.1
Note: Income data from the 2000 census was not available at the time of this writing Source: U.S. Census Bureau, Census 1990			

Native American Populations

As described earlier, the percentage of local residents identifying themselves as Native Americans/Alaska Natives in the 2000 Census ranges from a low of 0.2% in Rancho Mirage and Indian Wells, to a high of 1.4% in Desert Hot Springs and Morongo Valley. These individuals account for an extremely small percentage of the regional population and are generally well dispersed geographically.

However, an estimated 70,000 acres of land in the Coachella Valley region consists of Native American reservation lands. These lands include Tribal trust, allotted, and fee (privately owned) lands under the jurisdiction of the following entities: (1) **the Cabazon Band of Mission Indians in the San Geronio Pass area**, (2) the Agua Caliente Band of Cahuilla Indians in the Palm Springs, Cathedral City, and Rancho Mirage areas, (3) the Torres-Martinez Indians near the Salton Sea area, and (4) Santa Rosa Indian Reservation in the Anza Valley area. Although Indian land is not subject to the provisions of the CDCA Plan Amendment, Native Americans represent an important local population which may utilize BLM land for recreational and other purposes.

Children

Although the Coachella Valley is nationally recognized as a winter haven for retirees and other seniors, much of the valley's year-round population includes younger families with children. The following table identifies the number of persons under the age of 18 living in the CDCA planning area.

Table 3-14: Children in the CDCA Planning Area, 2000

	Persons Under Age 18	
	Total Number	% of Population
Cathedral City	13267	31.1
Coachella	9270	40.8
Desert Hot Springs	5519	33.3
Indian Wells	290	7.6
Indio	17318	35.3
La Quinta	6905	29.1
Palm Desert	7130	17.3
Palm Springs	7275	17
Rancho Mirage	1362	10.3
Bermuda Dunes	1468	23.6
Mecca	2152	39.8
Morongo Valley	486	25.2
Thousand Palms	1312	25.6
TOTAL	73754	--
Source: U.S. Census Bureau, Census 2000		

The data suggest that children are generally well distributed geographically throughout the planning area. The highest percentages reside in the eastern portion of the valley (Coachella, Mecca, and Indio) and the lowest percentages reside in the central portion of the valley (Indian Wells and Rancho Mirage).